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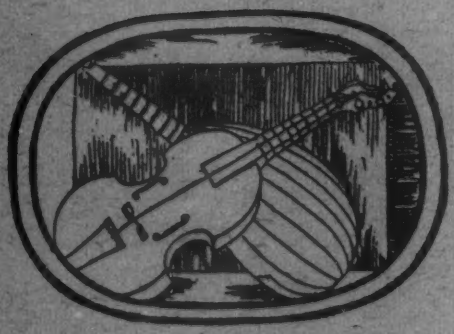

MARCH 1955

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KENNETH SKEAPING

Some Speculations on a Crisis in the History of the Violin

THE high reputation of the Stainer violin in the eighteenth century, a reputation rivalling and, in Germany and England at least, possibly exceeding that of the Amati instruments, has often been commented on in modern times, usually in terms conveying an impression that it was just one of those odd trends of taste for which no rational explanation can be found. We certainly have reason nowadays to regret its effect on the activities of many fine eighteenth-century makers,* and this fact seems to have exerted a dominating influence on practically all modern consideration of the Stainer question.[1]

The object of the present article is to get away from our retrospective bias, well founded though it may be, and to put forward a hypothesis based on considerations which, so far as the writer is aware, have hardly been taken into account in the discussion of this subject—a hypothesis which would suggest that our ancestors may have had better reasons for their appreciation of Stainer's model than we are inclined to credit to them. Let us start by surveying the drastic modifications in design of the bow and fitting-up of the instrument undertaken as a consequence of musical developments afoot during the second half of the eighteenth century—developments which included the continuing growth of public music-making—and then proceed to consider how they may have affected the general behaviour of the violin.

The first response to the demand for more power and a wider range of dynamic variation in tone appears to have come from the bow-makers, leading to the evolution and ultimate standardization of the modern bow, a development which called for changes in the fitting of the violin in order that it should stand up to the increased power possibilities which were coming under the player's control. The advent of Tourte's final pattern completed this experimental phase of bow-making and initiated the process of standardization. He is said to have concluded his main investigations in the year 1780.[2] It cannot be

*The all too numerous fabricators of nondescript and grotesque travesties of Stainer's model in Germany and elsewhere can, of course, be ignored, though their libels have certainly played a part in lowering the credit of this master of his craft. Authentic specimens of his work are rather scarce, but nobody who has had the opportunity to examine a fine example is likely to forget it.

doubted that a powerful stimulus was thus given to the work of re-adjusting the instrument, and the application of the modern fitting, which seems to have become a routine operation by the end of the century,[3] has been so thoroughly carried on since as to leave very few of the violins dating from before the time of its adoption with the neck, fingerboard and bass-bar as fitted by their makers. Another influence of great importance was that of rising pitch.

Although we have happily descended from the excessive heights reached later in the nineteenth century our standard pitch still remains about a semitone above that to which the instrument in its old style fitting was usually and most suitably tuned during the eighteenth century. Under those conditions a gut E string can be quite reasonably durable, whereas under the new ones its unreliability became, and long remained, the bane of the fiddler's life. It is curious that it took over one hundred years to solve this problem in a really satisfactory manner, and still more so to note that the difficulty of the slow-speaking gut D had to wait about three centuries before it could be overcome. One cannot help wondering what the ancient gut G must have been like! However, since steel E and covered gut D strings have relieved us of these troubles* we will now return to the development of our principal theme, and make some general and comparative remarks about the old and modern fittings.

The characteristic seventeenth-century neck of Stainer and Amati, carried on into the eighteenth century by Stradivari and others, was generally about a quarter of an inch shorter, and a trifle wider than the modern one. Set as it was, with its face level with the edge of the table, and either straight, or slightly tilted back so that the strings crossed the nut about in line with the table's edge, a wedge was required to give the fingerboard its necessary rise towards the bridge. The neck was not mortised into the top block, but simply glued on and then secured by nails driven through from inside the block into its base, which being less acutely hollowed out at the lower end of the neck than ours, was thereby left somewhat thicker than we have it now. (Here we must explain that the length of the old neck did not always and everywhere conform to the Cremonese standard just mentioned. The late seventeenth century measurements given by Talbot[4] imply a normal modern length, and the original neck of an English violin in the writer's possession, of mid-eighteenth-century date, whilst agreeing in other respects with the description already given, is also of

* All-metal stringing, which reached the summit of its popularity in the nineteen-thirties, has shown distinct signs of waning favour since. It is certainly convenient, reliable and durable, but somewhat rigid and tonally unsympathetic.

modern length.) Bass-bar dimensions varied somewhat, but did not often approach those of the modern bar before 1780: a typical measurement for the old bar would be—length $9\frac{1}{2}''$, depth in centre $\frac{1}{4}''$, width $\frac{3}{16}''$. In violins made after 1780 original bars even bigger than the modern average of $10\frac{1}{2}''$—$\frac{7}{16}''$—$\frac{1}{4}''$ have occasionally been found, but the average dimensions just quoted became stabilized at the beginning of the nineteenth century.[5] The modern neck, measured from under the nut to the edge of the table, varies in length between $5\frac{1}{16}''$ and $5\frac{1}{8}''$, and is thrown much farther back, so that the nut lies some $\frac{1}{4}''$ below the level of the table edge. It is mortised into the block, with its face raised between $\frac{1}{8}''$ and $\frac{1}{4}''$ above the edge of the table. This setting of the neck, by dispensing with the nails, permitted some 'slimming' of its shoulder, which now made a steeper turn off the lower end of the neck itself; the raised face at the new angle replacing the wedge which had previously lifted the fingerboard.

The effect of these alterations was to provide more resistance to bow pressure and, at the same time, by reducing the thickness of the neck, particularly at the shoulder end, to give greater convenience in handling the mobile passage writing, with increased use of upper positions and shifts on lower strings already being displayed in the developing technique of the mid-eighteenth century.[6] There was now a steeper rise from nut to bridge, and the bridge itself (given a little more substance to withstand the extra strain) generally tended to be a trifle higher[7] and was more strongly arched to reduce risk of a vigorously applied bow sounding unwanted adjacent strings, while the fingerboard, lengthened for the ultimate extension of the instrument's compass, was made rounder to match the camber of the bridge.*

The open string length on the violin today generally varies between $12\frac{7}{8}''$ and $13''$, which is considered to be the full standard measurement. There is evidence for its use with the old style fitting[8] and in cases where the old neck was of full modern length this $13''$ measurement from nut to bridge can be accepted without comment. But on the $4\frac{3}{4}''$ to $4\frac{7}{8}''$ neck of Amati and Stradivari we would expect the string measurement between a normally placed nut and bridge to be some-

* No measurements of fingerboard length are included in our main text, as they do not affect the question of tone and behaviour, but for the sake of completeness we will give a few details in this footnote. Stradivari's fingerboards—according to the particulars given in Chapter VIII of the great Hill monograph on his life and work—varied in length from $7\frac{1}{2}''$ to $8\frac{1}{2}''$. Talbot gives a length of $8''$. The two violins, by Stainer and Thompson, discussed in this article, have fingerboards of $9''$ and $10''$ respectively, and the standard modern length is $10\frac{1}{2}''$. It looks as though the extension of fingerboard length was a gradual process, although apparently not a uniformly progressive one.

where between 12½″ and 12¾″. All the same it would appear that a length exceeding 12¾″ was often attained with the short neck by placing the bridge farther back than we would have it, and in this connection it is worthy of remark that in the work of seventeenth and eighteenth century artists the violin is frequently shown, even in very exactly observed representations, with the bridge placed in varying degrees farther back than is considered normal nowadays. Bridge 'footprints' indicating a variety of stop lengths are also quite frequently to be seen on old violins.[9]

That the placing of the nut may also have been variable is suggested by its position in the case of the unique Stainer violin discussed and illustrated in this article. Here we have the nut in a position ¼″ higher up the peg box than that to which we are accustomed, giving a measurement of 5⅛″ on what is in actual fact a 4⅞″ neck. Tension would vary a bit with differences of length and would, of course, be affected by the thickness of strings used, but about this last item no precise information exists. We are not inclined to believe, however, that variations of string tension and pressure arising from the causes just discussed had any important effect on the character and behaviour of the instrument under the old conditions of pitch and fitting.

The alterations in playing adjustment of the violin which have already been described were in full swing round about the year 1800 and it was, perhaps rather significantly, just about this time that the supremacy of Stradivari and the decisive victory of the flat model began to be universally recognized.[10] Stradivari's position prior to 1780 had been below that of Stainer and the Amati Family, but from then onwards his instruments moved rapidly up into the front rank, thanks largely to Viotti, who was the first soloist of fame to show the world what could really be done with a Stradivari violin.[11] Our hypothesis is that the higher tension stringing on the heavier bass-bar made it possible, for the first time, to awaken the full activity of Stradivari's robust, resilient arching,[12] but that the average effect of this raised tension and pressure on the Amatese and Stainer types was to overload them. It is suggested that as a consequence of this the Amatese violins usually failed to develop the additional power reserve which the Strads are presumed to have gained, though the quality of their tone often remains fine.

In the case of the Stainer form the writer thinks that the general effect was to reduce, and frequently to destroy, the quality of 'fullness' in a tone which had been described by Lohlien in 1774 as 'full and soft like a flute' and by Hawkins a couple of years later as 'a full and piercing tone'.[13] Both Amati and Stainer models are usually found

nowadays to be inferior to those of Stradivari and Guarneri del Gesu in tonal flexibility and dynamic range. It seems reasonable to suspect that it was mainly as a consequence of these varied reactions of the different types to modern conditions of fitting that the old rating was upset, and Stradivari established in first place, with Amati second and Stainer a rather bad third.[14] The violins of Guarneri del Gesu did not achieve their position in the front rank till somewhat later than the Strads, partly because of their slower maturing and partly owing to their relative scarcity in comparison with the Stradivari instruments.[15]

Paganini was the artist who made the name of Joseph del Gesu a household word, and subsequently Ole Bull with his celebrated Gasparo da Salò and Charles de Bériot with his equally famous Maggini helped to rescue the Brescian masters—many of whose instruments we believe to have been well served by the new conditions—from their long period of neglect during the years of the Stainer-Amati régime.[16] The Brothers Hill, in their great works on Stradivari and the Guarneri Family, make a number of references to the Stainer question, and the following quotation from *The Violin Makers of the Guarneri Family* (page 34) represents such an interesting approach to the explanation of the Stainer case, and one differing so much from our own, that its insertion at this point seems wholly appropriate:

> And now to touch briefly on the causes which placed the Stainer tone in the forefront and straightway brought it into popularity. The labours of the Brothers Amati had contributed to settle the main principles of violin tone, a tone in closer affinity to the fine voice of a soprano singer than to that of the treble viol, and which in its capacity for variety of expression, quality and expansion quite surpassed the earlier instrument.
>
> It is conceivable, then, that during the latter part of the seventeenth century when the viol players were still numerous, the Stainer tone, with its timbre of acid-sweetness which responded to the least touch, and held back no reserve—features all reminiscent of viol tone—should appeal to ex-violists, who saw with regret the passing of their earlier choice, the 'generous viol', to quote Mace.

This ingenious and well-reasoned hypothesis, whilst offering a logical exposition of circumstances which could have made the Stainer reputation, does not explain how his instruments maintained their position for so long after the disappearance of the smaller viols had left the bass as the only surviving member of the viol family to fight the last round of its losing battle with the violoncello in the second half of the eighteenth century.[17] An answer to this question may possibly, we think, be found in the concise description they give of the characteristic tone and behaviour of the Stainer violin, which will be recognized at once by experienced fiddlers as an extremely accurate word-picture of

their own general impression of the type as it tends to react to modern conditions of pitch and fitting.

But there are grounds for suggesting that, when played under the low-tension conditions of its original arrangement, the Stainer violin may not, in reality, have given the general response so aptly described by the Brothers Hill, and we will now state them. In the year 1948 the writer had, by the kindness of Mr A. Phillips-Hill, head of the firm of W. E. Hill and Sons, the interesting and instructive experience of playing for two months on the beautiful Stainer violin which has inspired these present speculations. It bears a hand-written label dated 1668 and is one of the very few old violins to have escaped modernization. Another member of this small company is the writer's English violin, which was found for him by Messrs Hill. Of Stainer model, this instrument was made in London, *circa* 1750, by Charles and Samuel Thompson. Both these violins have been played with a normally placed bridge and tuned to a pitch varying from $\frac{1}{2}$ to $\frac{3}{4}$ of a tone below our present standard. The Stainer, with this bridge setting, and in spite of the high position of the nut, gives an open string length of just $12\frac{3}{4}''$, and the Thompson, with a neck length of $5\frac{1}{16}''$, one of $12\frac{7}{8}''$. But the string rise from nut to bridge on this violin is a normal modern one, a shade under $2''$, whilst that on the Stainer amounts to almost $\frac{1}{2}''$ less.*

Both instruments have been strung with the three upper strings of gut and a silver covered G, all of the thinnish medium gauge commonly used nowadays, and played on with bows of antique or transitional type having the old $\frac{1}{4}''$ wide hair band. These have varied in overall measurement, and the actual span of free hair employed in the full stroke has been between $21''$ and $24''$. Held up to $2''$ above the nut, according to their length, the hair under the fingers has, when necessary, been brought into play following the advice of Geminiani.[18]

Strung and handled as described, the Stainer yields a beautiful tone, thick and rich in quality and of a dark colour, though neither so loud nor so brilliant as the violin tone of today. Apart from an easy emission which is comparable, there is no resemblance here to the nasal, wiry quality of the treble viol. In general tonal character the Thompson

* It is not possible to quote bass-bar measurements from these two violins, since to do so it would be necessary to open them; a major operation only performed when absolutely necessary. The extremely shallow Stainer bar permits a clear view through the soundholes, but the Thompson has one deep enough to obstruct this view, as the modern bar does. When Mr Desmond Hill saw the Thompson violin opened in the workshop he found that its bar, which is decidedly smaller than a modern one, was not separately made and fitted in the usual way, but is actually part of the table.

violin is similar, although it lacks the free resonance and subtle flavour of the tone of Stainer's masterpiece. It will be seen that this description comes nearer to Lohlien's than to that of the Brothers Hill, which presents a characteristic Stainer tone we all know.

In our view, therefore, the popularity of the Stainer violin may not have arisen from any resemblance to viol tone, but might rather have been gained by a general superiority of tone and behaviour under the old conditions—a superiority passing with the adoption of the modern higher tension and pressure to the more powerful arching of the flat model instrument as brought to perfection by Stradivari and Guarneri del Gesu. Violins of flat model had, of course, been made quite early in the seventeenth century, notably by Maggini, but his contemporaries and successors of the Amati Family generally favoured a higher built instrument, a policy which was endorsed by the spreading popularity of that type of violin. In spite of this the flat model survived and ultimately conquered, and although we do not think that its full powers were available under the old conditions such powers would, in fact, hardly have been required in a period when quality of tone counted for more than volume, and the range of dynamic variation was considerably less wide than that of later days. Nevertheless, by the end of the seventeenth century greater preference was certainly being accorded to the high model, and this, together with the immense prestige of Stainer, cannot be satisfactorily explained from an assumption that the violin behaved then in the way that it does now, with the different types exhibiting comparative average characteristics similar to those recognized by the modern ear.

Our deductions from the evidence examined are not confirmed by sufficiently comprehensive practical experiments to permit the indulgence of dogmatic assertion, since we have been unable to compare the Stainer performance under these approximately original conditions with that of Amati, Stradivari and others, but we do feel entitled to submit the probable existence of a valid basis for the opinion of our ancestors, and to suggest that the judgment which awarded first place to Stainer may well have been just as sound as that which subsequently, under changing conditions, deposed him in favour of Stradivari.

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NOTES

[1] See Hill, *Antonio Stradivari* (p. 255) and *Guarneri Family* (p. 33) for remarks on Stainer-Amati influence; also Hart, *The Violin*, for a good sample of modern Stainer criticism (pp. 271-280).

[2] *Vide* Fétis, as quoted in translation by Heron-Allen on p. 95 of his *Violin Making as it Was and Is*.

[3] Vincenzo Lancetti, in his *Biographical Notices* (Milan, 1823), as quoted in translation by Hart (p. 151) and referred to in Hills' *Antonio Stradivari* (p. 204) says that 'about 1800 the Brothers Mantegazza [of Milan] were restorers of instruments who were often entrusted by French and Italian artists to lengthen the necks of their violins after the Paris fashion, an example which was followed by amateurs and professors all over North Italy'. Hart goes on to observe: 'This extract shows that the short necks were dispensed with in Paris towards the end of the last [eighteenth] century, and doubtless Viotti was the chief instigator with regard to the change.'

[4] See *GSJ*, III (p. 29) and Robert Donington's remarks (p. 39).

[5] Chapter VIII of Hills' *Antonio Stradivari* gives many interesting details concerning Stradivari's construction and the fittings of his period. Pp. 202-5 give a full description of the neck and fingerboard with an illustration (facing p. 202) comparing the old neck with the modern one. An illustration (facing p. 188) shows blocks and linings, with nails as placed in the top block to secure the neck, also comparison of a Strad bar with the modern one, and on p. 191 a table of original bar measurements from various violins made between 1621 and 1789.

[6] See Carse's brief but illuminating survey at the beginning of Chapter IX (p. 391) of *The Orchestra from Beethoven to Berlioz*.

[7] For information about the bridge, see *Antonio Stradivari*, p. 205 and illustrations on p. 206.

[8] We are indebted to Mr Eric Halfpenny for a photostat copy of the fingerboard chart taken from what would seem to be a mid-eighteenth century reprint of Peter Prelleur's *Art of Playing on the Violin, with a new Scale shewing how to Stop every Note, Flat or Sharp, exactly in Tune*. This chart gives an open string length of 13″, which is half an inch longer than in Prelleur's original chart of 1731. Apart from this, it appears to be identical with the Prelleur chart. The book from which it is taken (British Museum, press mark K.5.B.7) was published by David Rutherford. Though the evidence provided by such charts is not always reliable, this one, supported as it is by Talbot's measurements quoted in note 4, can be accepted as offering reasonably dependable informa-

tion. For a thorough treatment of the fingerboard chart, see David D. Boyden, *op. cit.*

[9] The charts mentioned above give instructions to the learner to move his bridge back or forward so that the open string length shall agree exactly with them. For a discussion of Prelleur's work see van der Straeten's *Romance of the Fiddle*, p. 198 *et seq.*

[10] See Hart, Section XIII, particularly pp. 336-40, also Hills' *Antonio Stradivari*, pp. 157 and 258.

[11] See *Antonio Stradivari*, p. 257.

[12] See *Antonio Stradivari* (p. 253) for translated quotation from George Simon Lohlien's *Advice on Violin Playing with Practical Examples* (Leipzig, 1774). Lohlien describes the Strad violin as having 'a light, penetrating, oboe-like but at the same time thin tone'. If this description accurately reports the general response of Stradivari's violins at the time it was written, we may suggest that it provides evidence that the full power of this maker's instruments was not available under the old conditions of fitting. By 1785 a writer in the Paris *Encyclopédie Méthodique* (quoted in translation in *Antonio Stradivari*, pp. 254-5) credits the Strad with 'a masculine, powerful and melodious tone' and rates it with the Amati instrument, though still putting Stainer at the top. Note that this opinion and description of Strad tone appeared three years after Viotti's sensational demonstration to the Parisians of Strad qualities in 1782. If Hart's suggestion (quoted in note 3 above) is well founded, Viotti may even then have been playing his Strad with an approximately modern adjustment.

[13] Lohlien's opinion of Stainer is quoted following that of Stradivari referred to in note 12 (A.S., p. 253). Hawkins' description is quoted by Hart in his notice of Stainer already referred to in note 1; also quoted in *Antonio Stradivari*, pp. 253-4. For a discussion of Lohlien's *Advice on Violin Playing* see van der Straeten's *Romance of the Fiddle*, pp. 242-252.

[14] A letter written to Dr Burney by the Rev Thomas Twining in 1791 throws some interesting light on the changing situation. Comparing his Stainer with a recently acquired Strad he says: 'I believe I have got possession of a sweet Stradivari which I play on with much more pleasure than my Stainer, partly because the tone is sweeter, mellower, rounder, and partly because the stop is longer. My Stainer is undersized, and on that account less valuable, though the tone is as bright, piercing and full as that of any Stainer I have ever heard. Yet, when I take it up after the Stradivari, it sets my teeth on edge. The tone comes out plump all at once; there is a comfortable reserve of tone in the Stradivari, and it bears pressure, and you may draw upon it for almost as much tone as you please.' In this description of the Stainer we find the 'full and piercing tone' of Hawkins combined with the lack of reserve noted by the Brothers Hill. His observations on the Stradivari show the characteristics of flexibility and solidity with which we are familiar today, though the quality would seem to have somewhat less of brilliance in it. The Rev T. Twining's letter is quoted in *Antonio Stradivari*, pp. 257–8.

[15] See Hills' *Violin Makers of the Guarneri Family* (p. 111) for an estimate of the number of years required for the maturing of instruments of different models. On p. 99 is an estimate of the total number of instruments likely to have been made by Joseph Guarnerius del Gesu, and in *Antonio Stradivari* (p. 226) one finds their calculation of the probable total of Stradivari's productions.

[16] For an account of Paganini and his Guarnerius see *The Violin Makers of the Guarneri Family* (pp. 92-4); also Hart, p. 340. Ole Bull's da Salò and de Bériot's Maggini are mentioned both by Hart and Heron-Allen in their works already quoted. Hart's references will be found on pp. 150, 172 and 342; Heron-Allen's on pp. 25 and 73.

[17] See Terry's remarks on the Viola da Gamba on pp. 133-4 of *Bach's Orchestra.*

[18] See Geminiani's bowing instructions on p. 2 of *The Art of Playing on the Violin.*

Acknowledgment

This study owes much to the wide scope and unimpeachable probity of Hill research, and perhaps even more to the kind interest and co-operation of Mr Phillips-Hill and Mr Desmond Hill, without which our first-hand observations and practical experiments could not have been made.

Notes to Plates II and III

PLATE II. *Antonica Pollusha*—curious mis-spelling of Antonio Pollusca, a rather obscure Roman maker, said to be a follower of Tecchler. Although the falsification by this label is quite perfunctory and makes no serious attempt to deceive, it implies that even in 1750 a third-rate Italian name might command more respect than a decent English one. Side view shows moderate backward tilt of neck, with normal position of nut. Depth of ribs does not show the usual (and proper) diminution of about $\frac{1}{16}$″ at upper end of body, being $1\frac{1}{4}$″ all over. View through soundholes is obstructed by bass-bar. The arching is higher than Stainer's, as is often found in the work of his copiers, though this example is not disfigured by the disastrously steep, exaggerated rise from behind the edges, particularly in the central area of the instrument, which has done so much to discredit the Stainer Model. Stainer himself was far more discreet than most of his imitators in the handling of this feature.

PLATE III. The face of the modern neck, rising from inside the edge of the table, replaces the old wedge at the new angle. The unbulging arch of the Stradivarian belly brings well-balanced opposition to the combination of longitudinal pull and downward pressure on the bridge which the strings exert when tuned up to pitch. It was this gradual management of the rise that made all the difference when tension and pressure were increased—its ultimate altitude being of less importance. Observe also the firm, restrained arching of the back; a feature equally significant for stability and power. Jean Baptiste Vuillaume (1798–1875) was one of the cleverest copiers of Stradivari, and many of the fine Cremonese violins brought to Paris by Tarisio passed through his hands.

THURSTON DART

A Hand-List of English Instrumental Music Printed Before 1681

FOR many years now I have been assembling material for a hand-list of all music printed in the British Isles (or composed by English musicians and printed on the Continent) during the sixteenth and seventeenth centuries; the material itself has been arranged chronologically, so that at a glance it is possible to see in which directions musical taste was veering at any given time. The list is still far from fully comprehensive, perhaps, but I have found in practice that it forms a valuable scholarly tool; moreover the rate at which it has expanded has for some time showed an increasing tendency to slow up, so that there is reason to suppose that the list is at last approaching completeness. For the purposes of the present article, I have selected only those publications which relate in some way or other to the theory and practice of instrumental music: tutors, collections of instrumental music (solo or ensemble), consort music in which some instrument or other is involved (e.g. lute-songs), and the like. I have excluded (i) ensemble music intended primarily or exclusively for voices (madrigal books, collections of motets, settings of psalm-tunes); (ii) ballads and ballad collections; (iii) philosophical studies connected with music (e.g. Fludd's *Historia utriusque cosmi*); (iv) identical reprints; (v) songs accompanied only by a bass. I have included publications that seem at one time to have existed, even though no copy of them is known today. The titles are given in a rough-and-ready form—this is a hand-list, not a full-dress bibliography—which should be enough to enable the works in question to be identified quickly and exactly. Where necessary, I have added a note or two giving the source of information about the book, its state of preservation and the location of copies. No attempt has been made, however, to make the location of sources a final list. I shall be most grateful for any additional information that readers of the JOURNAL may be able to provide from their own researches into this very fascinating, though too neglected, field of bibliographical study.

1530 'XX. so*n*ges . . . of iiii. . . . and thre p*a*rtes.'

The so-called 'Wynkyn de Worde' song-book, which contains

instrumental pieces by Fayrfax and Cowper as well as songs. Bassus: British Museum. Triplex: British Museum (title-page only). Medius: Westminster Abbey (title-page and colophon leaf, both mutilated).

1539 'Interlude' (printed by Rastell).
Contains a little ensemble music which may be vocal or instrumental or both. British Museum (imperfect).

1555 Hesse's 'Viel feiner lieblicher Stücklein'.
A collection which allegedly contains dances of English provenance. Copies used to be at Breslau and Augsburg.

1565 'Science of Lutyng.'

1567 'Exortation . . . how to play the lute' (Ballard).
Both books are listed in Deakin. No copies are known to exist today.

1568 'A Breffe instruction . . . on the gyttron and cetterne.'
From Deakin and Hazlitt. No copy known.

'Brief . . . instruction . . . unto the lute' (Alford).
Steele, following Hazlitt, gives the date 1563. The British Museum copy is dated 1568, and Hazlitt's dating is probably based upon a misreading. A translation from the French.

1570 'A boke of Musyke' (Vautrollier).
This is an entry found in the Stationers' Registers by Steele. It probably relates to the *Recueil du Mellange d'Orlande de Lassus* of the following year, but it may record another book.

1574 'Brief Introduction to Musick' (Delamotte).
This would appear to have been some kind of theoretical treatise; it is listed by Deakin, following Maunsell.

'Introduction to . . . the Lute' (F. Ke.).
Copy in the British Museum. A translation from the French.

1588 Byrd's 'Psalmes, Sonets and Songs'.
Many of the compositions in this collection were originally intended for one voice and four instruments (probably viols). Copies in British Museum, Royal College of Music, Christ Church, Bodleian, University Library, Cambridge. Reprinted at least once.

1590 Whythorne's 'Duos'.
Many of them for instruments (including, according to the title-page, cornetts). British Museum.

1591 Farmer's 'Divers & sundry Wayes'.
A collection of canons, without words, on the plainsong 'Miserere'. Bodleian.

1593 'A new book of Citterne Lessons' (Barley).
Deakin, from Maunsell. No copy known; it may never have been published, for Barley was not a member of the music-printing monopoly.

1594 'A Musical Consort' (Churchyard).
Deakin. Almost certainly a collection of poems.

1595 Morley's 'Canzonets' *à* 2.
Both English and Italian editions were published, though no copy of the Italian one is known to exist. Contains fantasies for two instruments. British Museum, Royal College of Music.

1596 Barley's 'New Booke of Tabliture'.
Containing music for lute, pandora and orpharion. British Museum, Royal College of Music. Deakin gives the date 1599.

1597 Dowland's 'First Book of Ayres'.
With lute accompaniment; and among the many different manners of performance envisaged by the composer was a broken consort of voices, melody instruments and (plucked) harmony instruments. British Museum. Includes a galliard 'for two to play on one lute'. Reprinted 1600, 1606, 1613.

Holborne's 'Cittharn Schoole'.
An anthology, not a tutor: and including a little music for broken consort. Royal College of Music, University Library, Cambridge.

Morley's 'Canzonets' *à* 5 and *à* 6.
Including a reduction of the lower voices into lute tablature. British Museum, Bodleian. Rimbault, following Wood, ascribed this to 1595.

Morley's 'Plain and Easy Introduction'.
A treatise, containing much ensemble music without words (but probably intended primarily for singing).

'Playne . . . instruction . . . for the virginall:'
Deakin: no copy known to exist, nor is it even certain that it was published.

Pattrick's 'Songs of Sundrye Natures'.
Entered for publication on the Registers. It may have included music for consort of voices and instruments, though this is unlikely. It was probably, however, never published.

1598 Cavendish's 'Booke of Ayres and Madrigalles'.
Includes lute-songs. Rimbault, quoting a catalogue of Thomas East's publications that no one else has ever seen, ascribed this to 1599. British Museum.

di Lasso's 'Cantiones' *à* 2.
Includes fantasies for instruments. British Museum. Rimbault mentions an edition of 1595—the result, apparently, of a blunder by him or by Wood.

1599 Allison's 'Psalmes of David in Meter'.
Including accompaniments for lute, orpharion, cittern and bass viol. British Museum.

Dering's 'Cryes of London'.
Almost certainly never published, and almost certainly another of Rimbault's red herrings.

Holborne's 'Pavans, Galliards, Almains'.
A superb collection of dances *à* 5, 'for viols, violins or other musical wind instruments'. British Museum, Christ Church.

Morley's 'Consort Lessons'.
For treble viol, 'flute' (probably transverse flute, and not—as the author once alleged—recorder), bass viol, lute, pandora, cittern. Pandora and flute: Christ Church. Cittern: Bodleian. Bass viol: Messrs Quaritch.

Green's 'Orpharion'.
A book of poems. For the organologist, as misleadingly titled as Sir John Davies's 'Orchestra'.

1600 Dowland's 'Second Book of Ayres'.
Compare the First Book (1597). British Museum, Royal College of Music. Includes a pavan for lute.

Jones's 'Book of Ayres'.
Rimbault, following his imagination or his East catalogue, said

that this was published in 1601. A book of lute-songs. British Museum.

Morley's 'Book of Ayres'.
Lute-songs and two pieces of lute-music (unfortunately lacking from the only surviving copy). Folger Library.

Rude(n)'s 'Flores Musicae'.
A book of lute-music, including some by English composers. Bodleian.

1601 Jones's 'Second Book of Ayres'.
The accompaniments intended primarily for the lute or the lyra viol. British Museum.

Campion and Rosseter's 'Book of Ayres'.
Lute-songs. British Museum.

van den Hove's 'Florida'.
A collection of lute-music published at Utrecht, including some by English composers. Bodleian.

1603 Byrd and Ferrabosco's 'Medulla Musicke'.
An anthology of canons on the plainsong 'Miserere', arranged (apparently) for the lute. Perhaps never published, and certainly no copy is known.

Dowland's 'Third Book of Ayres'.
See his previous Books (1597, 1600). British Museum, Royal College of Music.

Robinson's 'Schoole of Musicke'.
An excellent tutor for the lute, pandora, orpharion and viol. British Museum, Royal College of Music, University Library, Cambridge.

Besardus's 'Thesaurus Harmonicus'.
A large anthology of lute-music, including some pieces by Englishmen. British Museum.

1604 Greaves's 'Songes of Sundrie kindes'.
Includes music for viols and voice. British Museum.

Dowland's 'Lacrimae'.
For lute and five viols or 'violons' (i.e. a consort of violins). Its date of publication seems to be a matter of dispute: 1603 and 1605 have also been suggested. British Museum, Henry Watson Library.

1605 Hume's 'Musicall Humors'.
For lyra viol(s) and bass viol. British Museum, Henry Watson Library.

Pilkington's 'First Booke of Ayres'.
Lute-songs. British Museum. Includes a pavan for lute and bass-viol.

1606 Bartlet's 'Booke of Ayres'.
Lute-songs. British Museum.

Coperario's 'Funeral Teares'.
Lute-songs. British Museum.

Danyel's 'Songs for Lute, Viol and Voyce'.
Lute-songs, but including one lute solo. British Museum.

1607 Campion's 'Maske for Lord Hayes'.
Songs, and including music by Giles and Lupo. British Museum.

Ford's 'Musicke of Sundrie Kindes'.
Lute-songs, and including solos and duets for lyra viol(s). British Museum.

Hume's 'Poeticall Musicke'.
More solo and ensemble music for lyra and bass viols, by a rather touching figure in English musical history. British Museum, Henry Watson Library.

Füllsack and Hildebrand's 'Ausserlesene Paduanen'.
A collection of dances for five viols, with English composers well represented. Reprinted in Engelke's *Musik und Musiker am Gottorfer Hofe* (Breslau, 1930).

1608 Jones's 'Third Book of Ayres'.
Lute-songs. Royal College of Music, British Museum (photostat copy).

1609 Brade's 'Newe ausserlesene Paduanen'.
A collection of dances for viols by an expatriate Englishman. See Engelke's book. Sometimes referred to as his 'Musikalische Concerten'.

Ferrabosco's 'Book of Ayres'.
Lute-songs. British Museum, Royal College of Music.

Ferrabosco's 'Lessons for viols'.
A collection, not a tutor; music for one, two and three lyra viols. British Museum.

Jones's 'Musical Dream'.
Lute-songs. British Museum.

Robinson's 'New Citharen Lessons'.
A graded collection, including music for arch-cittern and for two citterns. British Museum, Nanki Collection.

Rosseter's 'Consort Lessons'.
For the same combination of instruments as Morley's. Cittern: Royal College of Music. Flute: New York Public Library. Lute: Bodleian (two imperfect pages, removed from a binding).

Füllsack and Hildebrand's 'Ander Theil . . . Paduanen'.
More dances for five viols, including a little by Englishmen. Reprinted in Engelke.

1610 Corkine's 'Book of Ayres'.
Lute-songs, but including some pieces for lyra viol. Royal College of Music, British Museum.

Robert Dowland's 'Variety of Lute-Lessons'.
Lute-music, by Englishmen and by Continental composers. British Museum.

Robert Dowland's 'Musical Banquet'.
Lute-songs. British Museum, Royal College of Music, Bodleian.

Simpson's 'Opusculum'.
An anthology of dances for viols, mainly by English composers. Select reprint in *Musica Britannica*, IX: 'Jacobean Consort Music'.

Gibbons's 'Fantasies' *à* 3.
Again a disputed date: 1606, 1609 and 1610 all have their partisans. British Museum.

East's 'Third Set'.
Contains a group of fantasies for 5 viols. British Museum.

1611 Adson's 'Courtly Masquing Ayres'.
Consort music for wind or string ensemble, *à* 5 and *à* 6. Royal College of Music, University Library, Cambridge (incomplete). Reprinted in 1621.

Jones's 'Muses Gardin for Delights'.
Lute-songs. British Museum (photostat): often ascribed to 1610, and date uncertain, apparently.

Maynard's 'XII Wonders'.
Lute-songs, which Warlock thought were poor. Includes dances for lute and viol, and lyra viol. British Museum, Bodleian.

Morley's 'Consort Lessons' (second edition).
Pandora: Huntington Library. Flute: British Museum. Treble viol: Royal College of Music. A revised and enlarged edition of the 1599 collection.

Simpson's 'Pavanen Volten und Galliarden'.
Another anthology of dances for viols.

Campion's 'Two Bookes of Ayres'.
Lute-songs. The date is doubtful, and 1610 and 1613 have also been suggested. British Museum.

Otto's 'Paduanen, Galliarden'.
Not English music, but 'nach englischer . . . Art'.

1612 Corkine's 'Second Booke of Ayres'.
Lute-songs, and including music for lyra viol. British Museum.

'Parthenia'.
The first printed collection of virginal music. British Museum, Royal Music Library. Reprinted 1620 (?), 1646, 1651, 1655, 1659.

Dowland's 'Pilgrimes Solace'.
Lute-songs. Includes one lute solo. British Museum.

van den Hove's 'Delitiae Musicae'.
Lute-music, including some by Englishmen. British Museum.

1613 Coperario's 'Songs of Mourning'.
Lute-songs. British Museum, Bodleian.

Notari's 'Prime Musiche'.
A collection of monody, but including a piece for *viola bastarda* (divisions on a madrigal). British Museum.

1614 Brade's 'Newe ausserlesene Paduanen'.
A collection of dances for viols. See Engelke.

Campion's 'Masque for Lord Somerset'.
Including songs by Lanier and Coperario. British Museum.

'Parthenia In-Violata'.
A collection of music for virginals and bass viol. Date uncertain. New York Public Library.

Leighton's 'Teares'.
Consort anthems, accompanied by the Morley-Rosseter combination of instruments. British Museum, Royal College of Music, Folger Library.

Ravenscroft's 'Briefe Discourse'.
A reactionary treatise, including some songs for a consort of voices and viols. Royal College of Music, British Museum.

'Masque of Flowers'.
Songs, thought to be by Coperario. British Museum.

1615 Amner's 'Sacred Hymns' *à* 3-6.
Includes anthems for voices and viols. British Museum, Bodleian, University Library, Cambridge (incomplete).

Tailour's 'Sacred Hymns'.
A similar collection, *à* 5, but with lute or orpharion accompaniment. British Museum.

'Recreationes Musicae' (Nuremberg),
According to Davey, this contains some English Music. Breslau.

A transcription for keyboard by Philips of a madrigal by Striggio. See *British Museum Catalogue of Printed Music*, Vol. II, p. 268. It is a musical example in a book treating of mechanical musical instruments (among other matters).

1616 Hagius's 'Newe künstliche . . . Intraden'.
Includes some English music. Bassus: British Museum.

1617 Brade's 'Newe ausserlesene liebliche Branden'.
Another anthology by this prolific composer, once again for viol consort. See Engelke.

Campion's 'Third and Fourth Books of Ayres'.
The date is doubtful. Lute-songs: Royal College of Music, British Museum.

Simpson's 'Opus newer Paduanen'.
More music by an expatriate colleague of Brade. See Engelke and Oberst.

Besardus's 'Novus Partus'.
A supplement to the *Thesaurus Harmonicus*, containing lute-music.

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Wordless fantasies *à* 3, which show signs of having been com-

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posed *à* 5 (as canzonets). Royal College of Music, British Museum, Folger Library.

Mason and Earsden's 'Ayres at Brougham Castle'.
From a masque. British Museum.

Vallet's 'Secret des Muses'.
An anthology of lute-music, with some English material. British Museum. A second volume appeared in 1619 (British Museum).

1619 Brade's 'Melodieuses Pavanes'.
Appears to be a reprint of earlier material by Brade. Hamburg State Library.

Vautor's 'Madrigals'.
Includes some consort songs for voices and viols. British Museum.

1620 Peerson's 'Private Musicke'.
Consort madrigals. Bodleian, British Museum (imperfect).

Obendörffer's 'Allegrezza Musicale'.
According to Nef, this contains music by Brade and Simpson.

1621 Brade's 'Newe Lustige Volten'.
Another collection of dances for viols. According to Meyer, there is a copy in the Royal College of Music; but no trace of it can now be found. Wolfenbüttel Library.

Simpson's 'Taffel Concert'.
A fine collection, mainly of dances, for viols (or violins) and continuo. Wolfenbüttel (all parts save the continuo), British Museum (the continuo).

1622 Attey's 'First Booke of Ayres'.
Lute-songs. British Museum.

'Amoenitatum musicalium'.
According to Meyer, contains English music. Leipzig, Breslau.

1624 East's 'Sixt Set'.
Includes some consort songs. British Museum (incomplete), Edinburgh University, Royal College of Music, Folger.

Pilkington's 'Second set of Madrigals'.
Altus book includes a pavan for orpharion. British Museum.

1626 Valerius's 'Neder-landtsche Gedenckclanck' (Haarlem).
Includes many English tunes. British Museum.

1629 Guédron's 'French Court Ayres'.
French lute-songs, translated. British Museum.

1630 Peerson's 'Mottects'.
Consort anthems. British Museum, Royal Music Library, Christ Church.
(According to Pattison, Gibbons's *Fantasies* were reprinted twice in this year.)

1631 Bevin's 'Briefe and Short Instruction'.
Includes wordless canons. British Museum, Fitzwilliam Museum, Royal Music Library.

1632 Porter's 'Madrigales and Ayres'.
Consort madrigals. British Museum, Folger Library. Davey refers to a reprint in 1639.

1636 Butler's 'Principles of Musik'.
An eccentric book, very famous in its day. Contains a certain amount of (not very helpful) information about instruments. British Museum, Fitzwilliam Museum.

1638 East's 'Seventh Set'.
Viol consorts, of varying quality. Royal College of Music, British Museum, Christ Church.

1641 Barnard's 'Selected Church Music'.
With organ continuo. British Museum (completed in photostat).

1648 'XX Koninklyke Fantasien'.
An Amsterdam collection of viol music by English composers. Uppsala.

1651 Playford's 'English Dancing Master'.
Tunes primarily for the violin. Playford also advertises a book of cittern music for this year. British Museum. Frequent reprints.

Playford's 'A Musical Banquet'.
A miscellany, including instrumental music. Bodleian.

1652 Playford's 'Booke of New Lessons for the Cittern and Gittern'.
Glasgow University.

Playford's 'Musick's Recreation on the Lyra-Viol'.
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British Museum. Reprinted many times.
(Davey refers to a collection of English music, including some by Joseph Butler, printed in Amsterdam in this year.)

Mathew's 'Lute's Apology'.
Music for the 'French' lute. Bedford County Record Office.

Young's 'Sonate a 3.4.5'.
Published at Innsbruck: music for two, three and four violins, with continuo. Reprinted by Oxford University Press.

Playford's 'Breefe Introduction to Skill of Music'.
British Museum. The first edition of a very popular guide to music, reprinted many times.

1655 Playford's 'Court Ayres' *à* 2.
For viols rather than violins. British Museum, Bodleian.

1656 Locke's 'Little Consort' *à* 3.
For viols rather than violins. Bodleian, Royal College of Music, British Museum (incomplete).

1657 (According to Burney a collection of virginal music was published in this year. There is no trace of it today, and it was probably only one of the many reprints of *Parthenia*.)

1659 Simpson's 'Division Violist'.
The first appearance of a famous book. British Museum.
(The 'Lessons for Cithren and Gittern' advertised in B.M. Add. MS. 19269, f. 165, for this year are probably a reprint or re-issue of the collection of 1652.)

1660 Jenkins's 'Twelve Sonatas for two violins and a bass'.
These are a great musicological mystery, originating with Hawkins. The current edition of Grove does not decrease it by mentioning a reprint of 1664. Nobody has ever seen a copy of either edition.

1661 (According to Deakin, an edition of Greeting's 'Pleasant Companion' for the flageolet.)

1663 'Musick's Handmaid'.
An anthology of virginal music. British Museum.

1664 (Davey (p. 271) refers to an Amsterdam edition of viol music by English composers, published in this year. No copy is known to exist today.)

1665 Simpson's 'Chelys'.
First edition of the Latin translation of his treatise on the division viol. British Museum.

1666 'Musick's Delight on the Cithren'.
A new collection of cittern music. British Museum, Bodleian, Library of Congress, Harvard, Fitzwilliam Museum and elsewhere.

1667 (Deakin mentions Simpson's 'Compendium' of this year: this surely must refer to the 1667 edition of Playford's *Introduction*, which included Simpson's little treatise on composition; there is a copy in the British Museum.)

Carr's 'Tripla Concordia'.
Ensemble music for violins (or viols) and bass (with optional continuo). Durham Cathedral Library.

1668 Tomkins's 'Musica Deo Sacra'.
With an elaborate 'Pars Organica'. St Michael's Tenbury.

Stedman's 'Tintanalogia'.
'Or the Art of Bell-ringing': the first English treatise on change-ringing.

1669 Young's 'Fantasies' *à* 3.
These are advertised; but it is doubtful whether they were *printed*. The London music-shops sold manuscript music, and Young's viol fantasies are known to survive only in this form (e.g. in the Gresham Library).

1670 Penny's 'Art of Composition, or Directions to play the Thorow Bass'.
No copy is known: it is listed by Deakin. The first printed book about continuo-playing in English?

'Apollo's Banquet for the Violin'.
From Clavel's catalogue. A copy is said to be in the possession of a London book-dealer.

Corbetta's 'Guitare royale'.
This was published in Paris, with a dedication to King Charles II. Corbett was at one time a fashionable guitar-teacher in London. British Museum.

Moss's 'Lessons for the Base-Viol'.
Of this collection of music for the lyra-viol, only one (imperfect) copy is known: Rowe Music Library (King's College, Cambridge).
(According to Clavel, there was an issue of Greeting's 'Pleasant Companion' in this year.)

1673 Locke's 'Melothesia'.
A collection of music for harpsichord (or spinet or virginals), and organ, together with instructions on continuo-playing. British Museum, Pendlebury Library, Cambridge, and elsewhere.
(According to Clavel, there was also a book issued in this year with the title 'A Compendium . . . for Vocal or Instrumental Musick', by one Gilbert. No copy is known, and one suspects a re-issue of Playford's 'Introduction'.)

1676 Mace's 'Musick's Monument'.
A famous book about the lute and viol, with many reflections on the music of his own and of earlier times. Copies are not uncommon.
(Clavel lists an issue of Carr's 'Tripla Concordia' for this year, but it has never been seen.)

1677 (Deakin refers to Roberts's 'Discourse concerning the Trumpet Marine' for this year. North's 'Philosophical Essay on Musick' which was certainly issued at the time (British Muscum) illustrates the interest in such subjects in contemporary London circles.)
(Clavel lists Francisco [Corbett]'s 'Easie Lessons on the Guittar' for this year: no copy seems to be known today.)

1678 (van der Straeten, by no means an infallible authority, asserted that Jenkins's 'New Lessons for Viols or Violins' were published in this year. If they were, he remains the only man who has seen a copy.)

1679 Hudgebut's 'Vade Mecum . . . of the Rechorder'.
There is a copy in the Bodleian.

1680 Greeting's 'Pleasant Companion'.
Dayton Miller Collection. The British Museum possesses a copy of the edition of 1682.

'Lessons for the Recorder'.
British Museum. The date is uncertain: the work in question is a single folio sheet (class-mark: I. 600. b. (81.)).

ERIC HALFPENNY

The Bass Recorders of Bressan

THE Society's exhibition in 1951 gave many recorder enthusiasts their first opportunity of a closer acquaintance with the celebrated group of four recorders by Bressan from the Grosvenor Museum, Chester. It is now nearly seventy years since they were discovered, and in that time they have been studied more than once, latterly of course by scholars much better informed on recorders and recorder playing than could be the case in 1901 when they were the subject of Dr J. C. Bridge's paper to the Musical Association. The uniqueness of these instruments lies in their being a matched set, always kept together. They are by no means the only surviving examples by this maker, as the exhibition itself showed. Of sixteen early recorders on view, no less than half that number were by Bressan. Among these was another bass, lent by the St Peter Hungate Museum of Norwich; and the presence of these two very striking-looking instruments invited comparisons which form the basis of this paper (see Plates VI and VII).

It so happens that a third, and exactly similar bass recorder, also by Bressan, has survived, and is preserved in the Victoria and Albert Museum. The existence of three such instruments, even from so prolific a maker as Bressan seems to have been, is a very remarkable circumstance. It is made the more so by the fact that James Talbot recorded the measurements of a Bressan bass during the maker's own lifetime. We are therefore able to compare existing instruments with a contemporary description, unusual in the minuteness of its data, and which, as will be shown, must relate to an instrument of the same type.

Although the wind section of the Talbot Manuscript was published in this JOURNAL in 1948, the re-dating of Bressan's active period has yet to be accomplished. Talbot derived most of his information about the newer jointed woodwind from Bressan, and the manuscript is now dated in the period 1695-98. Since Bressan can hardly have sprung, fully-fledged, to the position of an authoritative consultant on these matters, one may safely assume that he had behind him at that time a professional reputation of perhaps twenty years' standing. For this reason the dates still being adhered to in references to Bressan, such as 1715 or 1725, seem unnecessarily timid. Some confusion has undoubtedly been created by Canon Galpin's reading of the Bressan mark (see Plate V) as Puine Bressan—'the younger'. As can be seen from the plate, however, the initials P and I are separated by a small broken circle or horse-shoe, not a U; and in any case there would have

been no point in using a different type-face were the letters really intended for PUI. Since all Bressan instruments bear this stamp, there appears to be no evidence on which to base the existence of a Bressan 'the elder', and one can confidently identify the maker of the Chester recorders with the person known to James Talbot in 1695 or thereabouts.

Furthermore, the bass recorder described by Talbot possessed an unusual feature which is also common to the three known basses, a side-vent in the foot replacing the normal lower end of the bore, which is then closed by an end-pin or strut. This device has been treated by historians of the recorder as though it were a fairly common one. For example, Welch, presumably inspired by the Chester bass, went so far as to distinguish 'the foot, which projects from the lower end of the bass, for resting the instrument on the ground' in the Praetorius illustration (Pl. IX of the *De Organographia*), whereas an examination shows this to be nothing more than a draughtsman's 'projection' of the bore in plan, to show its diameter because of the misleading flare of the 'bell' at this point. In fact this form of construction, so far from being general, can be attributed directly to Bressan, and no evidence exists that any other maker used it until after 1700.

All in all, the strut-and-side-vent is a very peculiar structure as applied to the bass recorder, and its purpose is by no means clear. The majority of writers would have us believe that the maker went to the very considerable trouble involved merely to provide a ground rest for the instrument. The only example which now has its original strut is the Chester bass, and this is of so elaborate a nature that the simple explanation is scarcely sufficient to justify it. Naturally, with such an attachment in position the instrument must have rested on the ground when played, but it is difficult to believe that this is its prime function. The foot joints of all three basses and of Talbot's example are bored right through. They are not plugged below the side-vent, but each has an ivory-mounted socket of slightly enlarged bore at the bottom end. Into this the strut is fitted, and as the Chester instrument shows, the strut consists of a hollow wooden tube, stopped at the lower end by a button and formed of two telescopic sleeves, the inner of which carries a thread-lapped tenon at the top. The fact that this tube is open to the bore of the instrument and is connected therewith by means of an acoustic joint makes it clear that the strut has another intention besides that of a ground rest. And in fact, although the instrument can be played—and was played at the exhibition—without the strut, the tone, especially of the lower notes, is vastly improved when it is fixed in place. By accident or design therefore this blind extension of the bore

of the instrument acts as a resonator, boosting the foot-note and others near to it. It is difficult to believe that this effect is fortuitous. A seventeenth-century maker would hardly have gone to such elaborate lengths merely to ensure the comfort of his players, for the bass recorder is not really very cumbersome or heavy, and players of other wind instruments of comparable size, such as shawms or tenor oboes, apparently managed to do without any kind of support whatever.

Use has already been made of Talbot's data for other instruments in my previous studies published in this JOURNAL. Here, however, there is the added interest that one is able to check these measurements against existing instruments which must be substantially the same as that used in the preparation of the manuscript. That this is in fact the case is not immediately apparent, and as before, one has to attempt to divine Talbot's meaning by careful comparison with the known example or examples. The references to the side-vent occur on page 18 of *GSJ*, I, thus: '1st sound-hole from bottom of 3d Joynt, 1.6⅓. Dia.... of sound-hole near the bottom, 1′ 2½.' The '1st' which begins this quotation is, however, misleading, as it is an error of transcription for 'dist', meaning 'distance of'. There were not two sound-holes; only one diameter and one edge-position are given (that for the lower edge of the hole from the bottom of the foot). The two figures added together amount to nearly 3⅛″. If this is subtracted from the overall length of the foot (12⅝″) it fixes the distal end of the instrument's bore in accordance with the plan adopted in the table. At the head joint, Talbot gives the overall length as 12½″, including the cap-tenon, whose length was 1$\frac{23}{32}$″. He also says that the tongue is ½″ from the top of the joint, but he obviously means from the shoulder of the tenon above. The subtraction of these two distances from the total length gives the 'speaking length' of the head-bore at 10$\frac{9}{32}$″, again embodied in the table. The length given by Talbot for the middle joint does not appear to include the two tenons. One other point which helps us to picture Talbot's bass recorder is its crook. This did not enter the top of the cap, which was closed, but at the side, just above the plug. The large 'crook hool' (hole), nearly ⅝″ in diameter, shows that Bressan knew that one must feed the bass recorder with plenty of wind, with as little friction as possible. Unfortunately Talbot does not mention the strut, which he probably never saw; but he gives the bore of the foot 'above & below' which shows that, like the surviving instruments, his example must have had the same peculiar arrangement already described.

None of the original crooks remain. That for the Chester bass was provided by Mr Dolmetsch while the other two are more or less crude

earlier replacements. Attention may be called, however, to the finely-turned original mouthpiece of the Norwich bass (Pl. VI), which also has an ivory crook socket in the head cap. The crook alas! appears to have been fashioned from a Victorian gas-fitting. The fine silver key with its butterfly touch is an original part of the Chester bass (Pl. VII). The remnants of the brass key on the Norwich instrument may be original, but that on the Victoria and Albert specimen is a bad late replacement. The arresting appearance of these three instruments is much enhanced by the deep ivory mounts contrasting with the dark-stained wood. The mounting of the key-touches on ivory betrays their French seventeenth-century tradition, but their bold and massive contours—identical in all three—and the ingenious tube resonator are, one feels, the individual concepts of their famous maker.

MEASUREMENTS OF BRESSAN BASS RECORDERS

	Talbot Inches	*Chester* Inches	*Norwich* Inches	*V. & A.* Inches
LENGTH				
A From edge of tongue to bottom of head	10 9/32	10 9/32	10 1/8	10 3/16
B Middle joint, excluding tenons	14 7/8	14 15/16	15 7/16	15 3/32
C Top of foot to upper edge, vent-hole	9 1/2	9 13/16	9 7/8	9 7/8
Total 'speaking length' from tongue to vent	34 21/32	35 1/32	35 7/16	35 5/32
BORE				
At the tongue	1 3/8+	1 7/16	1 27/64	1 15/32
Mid. joint, top tenon	1 11/32	1 13/32	1 13/32	1 3/8
Mid. joint, lower tenon	1+	1 3/32	1 1/64	1 3/64
Bottom of foot	1	1 1/16	1 1/8	1 1/16
DIAMETER OF VENT-HOLE	1 5/16	1 7/16	1 3/32	1 1/32
WIDTH OF TONGUE	3/4+	23/32	3/4	23/32
NOTEHOLES				
A Spacing, edge-to-edge From top of mid. joint, excluding tenon, to thumb hole	1+	1 17/32	1 3/8	1 1/2

		Talbot Inches	*Chester* Inches	*Norwich* Inches	*V. & A.* Inches
From top mid. joint to hole 1		2	$2\frac{11}{32}$	$2\frac{5}{16}$	$2\frac{7}{16}$
	Hole 1 to 2	$1\frac{1}{4}$	$1\frac{9}{32}$	$1\frac{1}{4}$	$1\frac{5}{32}$
	2 to 3	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{5}{16}$	$1\frac{11}{32}$
	3 to 4	$4\frac{3}{8}$	$4\frac{1}{4}$	$4\frac{7}{16}$	$4\frac{1}{8}$
	4 to 5	$1\frac{11}{32}$	$1\frac{13}{32}$	$1\frac{3}{8}$	$1\frac{3}{8}$
	5 to 6	$1\frac{1}{8}$	$1\frac{5}{16}$	$1\frac{3}{16}$	$1\frac{11}{32}$
	6 to 7	$4\frac{23}{32}$	$4\frac{17}{32}$	$4\frac{1}{2}$	$4\frac{1}{2}$
B Diameters	Thumb	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{13}{32}$	$\frac{27}{64}$
	1	$\frac{3}{8}$	$\frac{13}{32}$	$\frac{11}{32}$	$\frac{13}{32}$
	2	$\frac{11}{32}$	$\frac{11}{32}$	$\frac{11}{32}$	$\frac{3}{8}$
	3	$\frac{5}{16}$	$\frac{9}{32}$	$\frac{17}{64}$	$\frac{9}{32}$
	4	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{11}{32}$	$\frac{11}{32}$
	5	$\frac{11}{32}$	$\frac{5}{16}$	$\frac{21}{64}$	$\frac{5}{16}$
	6	$\frac{5}{16}$	$\frac{7}{32}$	$\frac{21}{64}$	$\frac{1}{4}$
	7	$\frac{3}{8}$	$\frac{11}{32}$	$\frac{25}{64}$	$\frac{13}{32}$

NOTES

I am greatly obliged to the curators and keepers of the three museums, The Grosvenor, Chester; St Peter Hungate, Norwich; and the Victoria and Albert, London, for access to the instruments mentioned. The photographs are reproduced by their kind permission. The bass recorder in the Victoria and Albert Museum (No. 293—1882) was formerly the property of Carl Engel, who illustrated and described it in the *Descriptive Catalogue of the Musical Instruments in the South Kensington Museum* (1874). The Norwich instrument was presented to the St Peter Hungate Church Museum in 1942 by the Misses G. M. and M. A. Hawes. Neither of these instruments has the original strut, but Engel mentions it in terms which suggest that he knew all about it. He called it a 'cylinder', implying that it was hollow. The Museum cannot trace such a fitment, but in all probability there was originally one in Engel's possession which has since been lost.

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LAURENCE PICKEN

The Origin of the Short Lute

In his note on 'Angelic Musicians from Central Asia', Mr Prynne suggests that if the ascription of the frieze from Airtam to the first century be accepted, 'present theories about the origin of the lute-guitar-fiddle family of instruments may have to be revised considerably'.[1] Whatever these theories may be, it would seem that revision was overdue; for the existence of short lutes in the first century AD is known already from other Kusana sculptures—those of Gandhara, and is probably attested by Chinese texts of about a century and a half later.

According to Marcel-Dubois[2], two types of short lute occur on sculptures of the first century AD from Gandhara: (1) the 'waisted' lute (*luth échancré*): her figure (Pl. XIV, 1) shows three strings, a lute-type bridge, and plectrum; and (2) the ovoid lute with peg-box bent slightly backwards, three (or four) strings, no plectrum. The first type disappears from Indian records after the first century and does not reappear until the Muslim invasions; the second type occurs from the second to the fourth century in Southern India—at Amaravati, for example. This latter instrument (Marcel-Dubois, Pl. XIV, 3) is shown with a curved lute-type bridge and five pegs, laterally inserted in a backwardly directed peg-box. (The long-necked lute does not appear in India until the tenth century, and like the majority of modern Indian instruments probably arrived with the Muslim invaders. Instruments combining elements from both the pre-Muslim stick-zither and the Muslim long-necked lute are not uncommon. See Marcel-Dubois, p. 90.)

The land of Gandhara (that is, most of Afghanistan), together with the Pañjab as far as Taxila, formed part of the kingdom of the Kusanas established by Kadphises I about AD 50; and there is no reason to question the dating of the Airtam frieze, even though the presence of a short lute surprises. The Kusanas were a leading clan of a people known to the Chinese as Yüehchih, to the West as Scyths[3]. In the century and a half before AD 50, the Yüehchih had travelled from Northwest China, occupied Bactria, and from Bactria conquered Gandhara. During this migration, they had undoubtedly absorbed Turkic and Iranian elements; but whether they themselves should be regarded as primarily of Indo-Iranian or of Turco-Mongol stock cannot be decided, and the question may well be meaningless. It was the stability they brought to a land previously sub-divided into a myriad Hellenistic-Indian states which made possible the efflorescence of 'Gandharan' art. To think of

this culture as 'Greek' is incorrect; it was never more than Hellenistic. Moreover, Gandharan art was not produced at the time when Hellenistic influence was at its youngest and presumably most vigorous. It was a product of hybrid vigour following conquest by a Central Asian people; and it was in this mixed and prosperous culture that the first representations of the short lute appeared.

The name of the Chinese short lute, *p'i-p'a* or *p'i-pa*, sometimes (but with little justification) regarded as a phonetic equivalent of the Persian *barbat* or *barbut*[4], first appears in the early encyclopedia *Shih Ming*. This and certain other early references have already been summarized by writers in Western languages[5,6]. For the purposes of this note, the two earliest texts have been re-examined; neither of these is much later than AD 200. Though brief, they are informative; and there are several points of which the full significance has not perhaps been appreciated hitherto. Courant[6], though familiar with the earlier sources, starts from the collected views put forward in the *Liu Sung History*, dating from the fifth century, so that it is not easy to distinguish early from later views in his account. It is here proposed to consider the earliest texts in isolation and on their own merits. The relevant passages are short enough to quote in their entirety; they have not previously been translated *in extenso*, and the translation attempts to reproduce as faithfully as possible the *quasi*-telegraphese of the original.

Shih Ming (Explanations of Names) (Liu Hsi; *ca* AD 200—not before 126 nor later than 270[7]). '*P'i-p'a*: originally arose among [Northern or Western] barbarians; that which is played on horseback. Pushing the hand forwards is called *p'i*; pulling the hand backwards is called *p'a*. Depicts [what happens] when it is played; therefore used as name'.

Feng Su T'ung I (*Meanings of Current Customs and Expressions*) (Ying Chao; *ca.* AD 200). '*P'i-p'a*: that which musicians of recent times made; not known who. Forwards and backwards with the hand [*p'i-p'a*]; therefore used as name. Three "feet" five "inches" long [that is, about three feet long; not fifteen inches as stated by Moule[5] (*op. cit.*, p. 115)]; after the pattern of Heaven, Earth, Man and the Five Elements. Four strings figure Four Seasons.'

Exiguous though these comments be, they are revealing. It is surely significant that the hand-movement is thus emphasized. It must be remembered that, so far as is known, all Chinese stringed instruments before the introduction of the *p'i-p'a* were halftube- or board-zithers, and that no Chinese instrument of this class—*ch'in*, *seh* or *cheng*—demands such a movement. The performer sits facing the left long side of the instrument, and the action of the hands more resembles that at a keyboard than a forwards-and-backwards movement. The emphasis

of the hand-movement—as if this were the essential novelty in Chinese eyes of the first and second centuries—makes probable that the *p'i-p'a* was a lute, and not a zither, at its earliest appearance. Regarding the name: the selection of an approximate phonetic equivalent which had a relevant semantic value was one of the means by which the entry of foreign words into the Chinese vocabulary was facilitated. For the moment, it is advisable to suspend judgment about the foreign original of the name *p'i-p'a*.

The earliest references include several further points of importance. These are: that the *p'i-p'a* is of foreign origin; that in the second century it is a recent instrument; that it has four strings and is about three feet long. (This length approaches that of the surviving T'ang dynasty bass lute, the *gaku biwa*, still in use in the Imperial Court Orchestra of Japan.) The conclusion to be drawn from the early texts is, then, that the *p'i-p'a* is an instrument of non-Chinese provenance, recent in the second century, played with a characteristic forwards-and-backwards movement of the hand, with four strings and about three feet in length. These characters are not incompatible with the view that the *p'i-p'a* at its first appearance in China was a lute. The evidence of the earliest texts has been presented in isolation from later accounts precisely because it suggests a lute-type instrument (though not necessarily a short lute) of foreign and recent origin.

The point is of some importance, because the *Liu Sung History* of the fifth century contains two different stories of the origin of the *p'i-p'a* which have led to doubts about the earliest *p'i-p'a* being a lute at all. The first story runs: 'When the Emperor of Han sent the Wusun Princess to marry K'un-mi [Khan of the Wusun, a Central Asian people], being mindful of her thoughts and longings on the journey, he therefore ordered a craftsman to cut down [*or* modify] *cheng* and *chu* [two types of Chinese zither, the latter with a short neck or handle (Courant *op. cit.* p. 176)] and make a music for horseback.'

The *Liu Sung History* gives as the source of this story a poetical essay (*fu*) on the *p'i-p'a* by Fu Hsüan (AD 217–278). Fragments of this *fu* survive, and from these it is clear that substantial portions of the accounts of the origin, construction and cosmological significance of the *p'i-p'a* in the *Liu Sung History*, in the *Old T'ang History* (of which the music section may well go back to the earlier version of Wei Shu *et al.* completed about 760), and in the *T'ung Tien* (*General Encyclopedia*) (the author, Tu Yu, died in 812), are all taken from this *fu*.

So far as is known, the ensemble of fragments from this essay has not previously been examined in relation to the early history of the *p'i-p'a*. The fragments provide evidence of the structure of the *p'i-p'a* in the

third century, and they show that the story of the derivation of the instrument from *cheng* and *chu* is a truncated version of a fuller original of rather different significance. For convenience, they will be considered out of their serial order. An initial letter in brackets enables the real order to be restored.

To take first constructional points, we read: (B) 'Consider now that instrument: inside hollow, outside solid, an image of Heaven and Earth; the bowl round, the handle straight, in conformity with the Female and Male Principles; twelve frets [*chu*] matched with the [twelve] Pitch Pipes; four strings figuring the Four Seasons.' (The last analogy suggests that the author of the *Feng Su T'ung I* was perhaps familiar with this *fu*—or conversely.) The description fits a lute, though it is still not possible to say whether short- or long-necked. A point of importance concerns the frets. The term *chu* is usually applied to movable bridges, each supporting a single string, such as exist today on the zither known as *cheng*, and existed in the past on the ancient ritual *seh*. At a later date the Chinese undoubtedly had separate terms for fixed frets, and differentiated between those on the neck and those on the body of the *p'i-p'a*; but in Sino-Japanese the ideograph *chu* is used both for the movable bridges on the *koto* (a zither) and for the fixed frets on the bass lute, the *gaku biwa*, which like Fu Hsüan's *p'i-p'a* has four strings. In the light of this usage, it is probably legitimate to translate *chu** in the third century as 'fret'; but it is still not possible to decide between a long-necked and a short-necked instrument. For if there were frets on the body as well as on the neck, the instrument might be a short lute in spite of the number of frets. Leaving this point for the moment, however, the comment: 'twelve *chu* matched with the Pitch Pipes [a twelve-note octave]' strongly suggests an approximately equal-tempered chromatic scaling. Concordance with the Pitch Pipes would help to make the instrument cosmologically respectable though recent and of foreign origin.

Regarding provenance, Fu Hsüan writes: (A) 'The *Shih Pen* [either a reference to one or other of two lost historical works of that name: or, to the Chronicles of the Feudal Families and Records of the Emperors, two sections of the *Shih Chi*, by Szu-ma Ch'ien] does not record the maker. I have heard an old story that when the Emperor of Han sent

* Courant (*op. cit.* p. 96) has translated *chu* as 'moveable bridge' in an important passage from the *Sui History* (Book 14, folio 25) where it certainly does not mean a moveable bridge but rather a tuning peg. A more correct translation of the beginning of this passage—for which I am indebted to Professor E. G. Pulleyblank—would be: '[Cheng] I thereupon by means of the string-posts (*hsien-chu*=tuning pegs) of the *p'i-p'a* which he twisted . . .'

the Wusun Princess to marry K'un-mi, being mindful of her thoughts and longings on the journey, he therefore ordered a craftsman-musician to design [an instrument] of the class of *ch'in* [the seven-stringed zither], *cheng*, *chu* and *k'ung hou* [the vertical angular harp] and make a music for horseback.'

The class of instruments to which three different zithers and a harp belong can be no less than the entire class of plucked stringed instruments; and the story in this fuller version disposes once and for all of the notion that the *p'i-p'a* was a compound of *cheng* and *chu*. In any case, the legend has nothing to do with the structure of the instrument of the mid-third century as described by Fu Hsüan, which is a hollow-bellied, four-stringed lute, with a neck differentiated from the hollow body.

Later, Fu Hsüan reverts to the question of origin: (C) 'In referring to it one uses a foreign expression, *p'i-p'a*, because it was transmitted to a foreign country.' The explanation is illogical; but it would not do to say that the *p'i-p'a* was a foreign instrument, after having put forward a story of its origin on Chinese soil. What is valuable in this statement is the clear indication that Fu Hsüan recognized that the name *p'i-p'a* was originally a foreign word.

The second story, also reported in the *Liu Sung History*, though somewhat condensed there, is as follows: (D) 'Tu Chih [a contemporary of Fu Hsüan, *fl.* AD 254–6] supposes that at the end of the Ch'in dynasty [255–209 BC], peasants suffering under forced labour on the Great Wall strung a *t'ao* [a small two-headed, nailed, cylindrical drum, with a handle at right angles to the axis of the two heads] and played it.' The origin of this story is perhaps sufficiently explained by the real resemblance of the *t'ao*, with its handle, to a circular lute with a straight narrow neck. Fu Hsüan concludes this section of his essay with the comment: (E) 'A brace [of theories] each having support; in deciding between them from the sense, the Wusun [story] is preferable.'

We can safely say that both stories have the face-saving function of suggesting how a popular, but completely foreign, instrument was really quite respectable because after all it had been invented in China, exported and re-imported. The association with the Wusun, however, is striking. At the time (late second century BC) of the Princess's journey (mentioned in the *Former Han History* of the first century AD), the Wusun, perhaps the original ethnic substrate of the Asiani (see Haloun, *op. cit.*, p. 252), were a mixed people, having absorbed the Great Yüehchih in the course of their migration, already referred to. This association carries us not only towards Central Asia, but towards the very people of whom the Kusanas were a dominant clan, and in whose

Violin by Jacobus Stainer, 1668. Original condition. Pegs and bridge—modern reproductions in appropriate style. Ebony-veneered fingerboard and tailpiece —original. In side view, observe straight neck, fingerboard wedge, and high placing of the nut; also, rapid rise of the table arching and clear view through the soundholes.

PLATE I

Stainer Model Violin by Charles & Samuel Thompson, London, *c.* 1750. Original condition: Pegs, bridge and ebony tailpiece—18th century, though not originally belonging to this instrument (date of tailpiece, *c.* 1790). Unveneered ebony fingerboard almost certainly original, but with a new nut. With the makers' printed label falsely attributing their work to *Antonica Pollusha, Rome,* 1722 (the last two figures in ink). See note at end of article (p. 12).

PLATE II

Modern Violin, Stradivari Model, by J. B. Vuillaume, Paris, 1867. Fingerboard is not Vuillaume's original one, which, however, would not have differed in any significant way. Side view shows fully-tilted modern neck, mortised into the top-block. Observe also the unbulging arch of the Stradivarian belly, and the firm, restrained arching of the back. See note at end of article.

PLATE III

Organ by Jan Wulf. Oliva Abbey, near Danzig

PLATE IV

territory, a century and a half later, representations of short lutes first appear.

'Music for horseback' itself suggests a people of equestrian habits; and it may be that the playing of the lute on horseback was a practice of the Wusun. From later times, Persian miniatures often show equestrian musicians.

Though the earliest Chinese texts do not give any indication whether a short or a long-necked lute is implied, it can be argued that the instrument was a short lute, because the earliest Chinese representations of lutes are of the short type. The earliest hitherto recorded occur on basreliefs of the first half of the sixth century; and actual T'ang lutes from a century or so later (late eighth or early ninth century) survive to this day in the Shosoin at Nara in Japan[9]. There is, however, a still earlier representation of a Chinese lute on a still older instrument in the Shosoin. It occurs on the very early decorated Chinese seven-stringed zither. Van Gulik[10] (*op. cit.* pp. 181–9) has discussed in detail the stylistic and other grounds for ascribing this instrument to the fifth century; he has argued that its cyclical date should be read either . 35 or 495, and that it was already an antique when placed in the Imperial Collection in 817. This zither, superbly decorated in lacquer inlaid with gold and silver, bears on its upper surface, in the space between the last nodal stud and the bridge, a scene *al fresco* representing three persons: one in the act of drinking from a horn-cup; one with a zither on his knees; and one playing a *p'i-p'a*. The drawing is hair-sharp, as can be seen from the fine collotype in the *Catalogue of the Imperial Treasures in the Shosoin* (Vol. III, Pl. 4)[11]. The *p'i-p'a* shown has a large body, circular in plan, about eighteen inches in diameter, with a straight tapering neck. The length of the neck to the union with the peg-box is equal to the diameter of the body. There are four strings, a lute-type bridge, and four pegs laterally inserted in an apparently straight peg-box. The lute shows a broad band across the belly at right angles to the neck-bridge axis, comparable with the leather band on the *gaku biwa*, and a large hand-plectrum can be seen in the performer's right hand. There are clearly frets on the body (four are visible, of which three are marked by double lines) as well as on the neck (again four are visible, and there is a gap between those on the neck and those on the body; this may be due to imperfection in the drawing, but if real means that the scaling cannot have been chromatic). The instrument is identified by van Gulik with the *Ch'in p'i-p'a*, as defined in the *Old T'ang History*, that is, the *p'i-p'a* associated with the name of the Ch'in dynasty—if only fancifully so. Here then is a representation of a Chinese lute of the fifth century which would seem to fit perfectly Fu Hsüan's description

of the third century. It is clear that Fu Hsüan's instrument was neither a 'waisted' lute nor an ovoid lute.

The earliest Chinese reference to a 'bent-necked *p'i-p'a*' is perhaps that in the Sui History, compiled pursuant to a decree of 629. The passage suggests that the instrument came from Hsi-liang (modern Kansu Province) at the beginning of the fifth century. That the 'bent-necked *p'i-p'a*' was the ovoid lute is made certain by a reference in the *Old T'ang History* which must go back to the version completed about 760 (already referred to) since the passage is also quoted in the *T'ung Tien* of Tu Yu (d. 812). (The *Old T'ang History* as a whole can scarcely hve been compiled before 920.) Having referred to the *Ch'in p'i-p'a*, the text continues: 'The others [*p'i-p'as*] are in shape full above, pointed below, neck bent, and rather large. Originally arose among [Northern or Western] barbarians. According to common tradition made in Han times.' (The inversion of the pear-shape accords with the position in which the ovoid lute is held in representations from T'ang times.[9])

Van Gulik equates the scene on the upper surface of the Shosoin zither with the famous literary gathering at the Lan Pavilion in 353, and regards the enclosure of three principal figures in a square as a reminiscence of the conventions of Buddhist painting. It is possible, however, that yet another literary reminiscence may have been active in shaping the design: that of the Seven Sages of Chu-lin, discussed in another work by van Gulik[12]. The Seven Sages (who were meeting between 245 and 255) included in their number two conspicuously gifted musicians—Hsi K'ang who played the seven-stringed zither and Yüan Hsien who played the *p'i-p'a*—and a great wine-bibber—Liu Ling. The possible identification of the three personages with three of the Seven Sages (in spite of the fact that there are nine human figures in all on the upper surface of the zither) would be trivial but for the fact that the name of Yüan Hsien was given to a type of short lute of which two specimens are preserved in the Shosoin (see *Catalogue*: Vol. I, Pls. 49–52). These instruments are clearly *Ch'in p'i-p'a* closely resembling the instrument figured on the Shosoin zither. The *Old T'ang History* recounts how such an instrument, made of copper (or a copper alloy) (!), was found in an ancient tomb during the reign of the Empress Wu of T'ang (684–705), and that a certain antiquary, Yüan Hsing-ch'ung, stated it was the instrument invented (or made) by Yüan Hsien. The one illustrated in the Shosoin *Catalogue* is 1 metre long; the body is 39 cms. in diameter and 3.6 cms. thick; there are four strings and fourteen frets, of which four are placed on the body. The scaling of this instrument cannot be chromatic; but it must be remembered that this is probably an instrument of the ninth century. The

catalogue-notes state that the instrument is called *Genkan* (=Yüan Hsien) because of its resemblance to the instrument (*Ch'in p'i-p'a*) which Yüan Hsien is traditionally represented as playing. (The *Old T'ang History* specifically refers to his doing so in 'the picture of the Seven Sages of Chu-lin'.) The notes do not refer to the scene on the zither, though this would seem to be an example of that very tradition. It is striking that on a *zither*, the *p'i-p'a* player should be throned in honour.

The metal *p'i-p'a* of the tomb-find may have been a materially ennobled specimen for use as grave-furniture. (Iron and porcelain zithers are well attested, for example.) There is, however, another possibility which should perhaps be mentioned. It is that there may have been a type of *Ch'in p'i-p'a* which, like the modern Turkish *cümbüş*, incorporated a resonance chamber of copper or brass. The *T'ung Tien* (and the *New T'ang History*) records that on the instructions of Yüan Hsing-ch'ung the instrument was re-constructed in wood. Its tone is described as 'clear and refined'. It would seem, therefore, that if at any time a metal-bellied short lute had been in use in China, the usage was forgotten by the end of the seventh century.

With the later history of the instrument in Chinese sources this note is not concerned; but it is worth mentioning how much information about types of lutes and their provenance is contained in Chinese texts and has never, as yet, been properly explored by Western scholars. According to a statement in the *Old T'ang History*, all ancient *p'i-p'as* were played with a wooden plectrum, and it was not until the reign of T'ai Tsung of T'ang (627–50) that the fingers alone were used. In view of the documentary and archaeological evidence in China (and Japan), it would seem likely that the circular short lute appeared in China before the ovoid lute; and furthermore (ignoring the date implied by the name *Han p'i-p'a*) that the earliest appearance of the ovoid short lute with a bent neck within the immediate area of Chinese contact occurred at the beginning of the fifth century, in Hsi-Liang. This suggests a maximal interval of about four centuries between the appearance of short ovoid lutes in the territory of the Kusanas and in China. That it may be wise to ignore the implications of the names *Ch'in p'i-p'a* and *Han p'i-p'a* is suggested by the fact that the Hsi-Liang musicians (with whom the short ovoid lute is first associated) were known as the *Ch'in Han Chih* (the Ch'in-Han Performance), perhaps because they were Chinese by birth, though professionally engaged outside metropolitan China.* An alternative popular name for the *Ch'in*

* I owe this suggestion to Professor E. G. Pulleyblank.

p'i-p'a given in the *Old T'ang History* is *Ch'in Han Tzu* (the Ch'in Han thing), as if there were an association with the *Ch'in Han Chih*. In the absence of further archaeological evidence, the appearance of the short ovoid lute in China cannot be placed earlier than the beginning of the fifth century.

Turning to the West, it is known that the Sasanian Persians played the *barbat* or *barbut*—'a lute with a hollow neck'[13]; but the Sasanian era is usually counted from the accession of Papak in AD 208, and there would seem to be no Sasanian representations of short lutes earlier than the fourth century[14], so that the Kusana sculptures and the earliest Chinese references have a clear priority.

With the evidence as yet available, it is reasonable to place the site of origin of the short lute in Central Asia, perhaps among Iranised Turco-Mongols, within the area of the ancient first-century kingdom of the Kusanas. This conclusion must not be taken to exclude the possibility that short lutes first appeared somewhat earlier and somewhat further to the West—in Parthia, for example; but at present the evidence of the Kusana reliefs is the only evidence of their existence in the first century. Long-necked, fretted (?) lutes were known to the Hittites of Asia Minor in the second millennium BC, and in Egypt in the same period, where their fretting is beyond dispute and has recently been re-examined by Hickmann[15]; they were also known to Greeks and Romans[16] (Sachs *op. cit.*, p. 137). Although certain Elamic clay figures of the eighth century BC are carrying pear-shaped objects which appear to be short ovoid lutes[16], no structural details are visible (Sachs *op. cit.*, p. 251). The lutes of the Kusanas would seem to be the first representations of undoubted short ovoid lutes; and Fu Hsüan's essay, one of the first texts in any language devoted to a short lute, though not to an ovoid lute.

The degree of refinement associated with the instrument and its music in third century China is clearly revealed in the last fragments of Fu Hsüan's essay. In the original, the lines here set out as verse are parallel sentences of equal numbers of syllables, each with a caesura and the same terminal rhyme; the abrupt beginning indicates that something has been lost. The translation must not be regarded as more than tentative; some of the allusions can be plausibly interpreted, others are obscure. These difficulties notwithstanding, there can be no doubt of the sophistication of the society in which this essay was produced; of the technical skill of its lutenists; or of the extent of philosophical rationalization of the affective properties of music in third-century China.

(F) '. . . one lengthens and extends the neck so as to spread out the

frets; one makes the 'Four Seasons' revolve and so manifests the Moving Power [of the Universe].'

(G) 'The pale hand's indistinctness—is it not like the whirlwind!
The floating sounds reach to the lofty rafters.

The weak wrist suddenly gallops in a race!
It depicts the surpassing brilliance of startling lightning.

Make fly the delicate fingers, jostling the frets!
Sorrow is diffused with dismal grief.

At times soft and delicate in hesitation!
The sounds strike variously, now swelling, now diminishing.

When beginning the Flying Dragon's secret tune!
How surpassingly rare and strange in the *Ch'ing Shang* mode.

The sorrowing sounds combine within; the heavy spirit penetrates to the Outer World. Expanding and extending, welling up to the surface, eddying it soars, twisting and turning.'

(H) 'At length all act in mixed concord. The six song-melodies are played one by one.

Delicate strings excitedly dance.
The swift hand flies in confusion.'

ACKNOWLEDGMENTS

I wish to record my debt to Dr J. E. van Lohuizen-de Leeuw, to Professor H. W. Bailey, and to Dr A. D. Waley, for advice on a number of points and for reading the MS. To Professor E. G. Pulleyblank I am indebted for criticism and help in the translation of certain passages from the Chinese, and for several references that would have escaped me but for his interest.

NOTES

[1] M. W. Prynne, 'Angelic Musicians from Central Asia', *Galpin Society Journal*, VII, pp. 54, 55, London, 1954.

[2] C. Marcel-Dubois, *Les Instruments de musique de l'Inde ancienne*, Paris, 1941.

[3] G. Haloun, 'Zur Üe-Tsï-Frage', *Zeitschrift der deutschen morgenländischen Gesellschaft*, xci, pp. 243–318, Leipzig, 1937. See pp. 316 and 252.

[4] H. G. Farmer, 'Reciprocal Influences in Music 'twixt the Far and Middle East', *Journal of the Royal Asiatic Society*, pp. 327–42, London, 1934. See p. 328.

[5] A. C. Moule, 'A List of the Musical and other Sound-Producing Instruments of the Chinese', *Journal of the North-China Branch of the Royal Asiatic Society*, xxxix, pp. 1–160, Shanghai, 1908.

[6] M. Courant, 'Essai historique sur la musique classique des chinois', *Encyclopédie de la musique* (Lavignac and La Laurencie), i, pp. 77–241, Paris, 1912.

[7] N. C. Bodman, 'A Linguistic Study of the *Shih Ming*', *Harvard Yenching Institute Studies*, xi, pp. 1–146, Cambridge, Mass., 1954. See p. 4.

[8] The fragments of Fu Hsüan's *fu* are assembled and their sources indicated in the *Ch'üan Shang-Ku San-Tai Ch'in Han San-Kuo Liu-Ch'ao Wen* by Yen K'o-chün. I had examined the sources in the case of fragments A, B, C, D and E, before submitting, but could not do so in the case of fragments F, G and H. Recently I have been able to consult the *Pei T'ang Shu Ch'ao* (F) and the *Ch'u Hsüeh Chi* (G and H). The latter, completed before 729, contains under the heading '*P'i-p'a*' not only fragments G and H, but substantial portions of A, B, C and D as well. It also includes fragments from two other *p'i-p'a fu* of the Chin period (265–419), one of Sung Yen, the other by Ch'eng Kung-sui. These are not of the same constructional interest as Fu Hsüan's *fu*, but clearly the material in the *Ch'u Hsüeh Chi* deserves careful examination.

[9] H. E. Fernald, 'Chinese Musical Instruments', *Museum Journal*, Philadelphia, 1936. Reprinted in Hsiao Ch'ien, *A Harp with a Thousand Strings*, London, 1944.

[10] R. H. van Gulik, *The Lore of the Chinese Lute*, Tokyo, 1940.

[11] Imperial Household Museum, *Catalogue of the Imperial Treasures in the Shosoin*, Tokyo, 1929.

[12] R. H. van Gulik, *Hsi K'ang and his Poetical Essay on the Lute*, Tokyo, 1941.

[13] H. G. Farmer, 'The Instruments of Music on the Taq-i Bustan Basreliefs', *Journal of the Royal Asiatic Society*, pp. 397–412, London, 1938. See p. 405.

[14] H. G. Farmer, *Studies in Oriental Musical Instruments*, i, London, 1931. See p. 96.

[15] H. Hickmann, 'Les Luths aux frettes du nouvel empire, Miscellanea Musicologica xi', *Annales du Service des antiquités de l'Égypte*, lii, pp. 161–83, Cairo, 1952.

[16] C. Sachs, *The History of Musical Instruments*, New York, 1940.

NOTE ADDED IN PROOF

Since this article was submitted for publication I have found two important papers on this subject by Japanese authors; one in English by S. Kishibe, 'On the Origin of the P'i-p'a', *Transactions of the Asiatic Society of Japan*, 2nd Series, xix (Tokyo, 1940) pp. 259–304; the other in Japanese with an English summary by R. Taki, 'Toyo ni hattatsuseru biwa ni tsuite' ('On the P'i-p'a or Chinese Lutes'), *Toyo Ongaku Kenkyu*, ix (Tokyo, 1951) pp. 71–112 (English summary pp. 6–8). Both consider certain of the early texts, but neither examines all the fragments of Fu Hsüan or the other fragmentary *p'i-p'a fu* in the *Pei T'ang Shu Ch'ao* or the *Ch'u Hsüeh Chi*. Kishibe discusses the possibility that the name '*p'i-p'a*' came from *barbut*; his arguments and examples of phonetic change are not conclusive. Concerning origins, both authors agree in the main with the conclusions reached by me; but Taki attempts a distinction between 'Persian' and 'Indian' sources for straight-necked and bent-necked types which seems to me to go rather beyond the evidence. L.P.

GERALD HAYES

Music in the Boteler Muniments

i. *Printed*

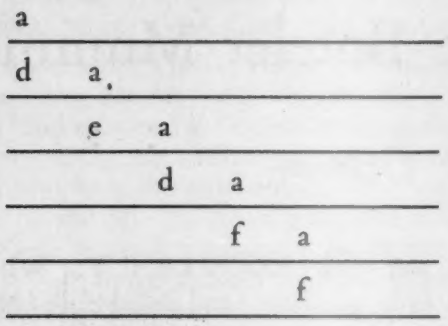
The / Lutes Apology, / FOR HER / EXCELLENCY: / Wherein is contained variety of *Ayres*, easie, pleasant, / and delightfull. / Newly set to the *French Lute*, by *Richard Mathew*, Lover of *Musick*, for the / Benefit of the Industrious Practitioner, / (rule) / The first that hath been Published to the French Lute. / (rule) / (oval design of lute, violin and music book) / (rule) / London. Printed by *Thomas Harper*, for *Livewell Chapman*, at the Crowne in / Popes-head Alley, 1652.
Oblong 8vo: 18 cms. by 15 cms. Coll: a 1–4, A to E 1–4, F 1–2.

Only copy at present known deposited by Bedfordshire Archeological Society in the archives of the County Record Committee of the Bedfordshire County Council, in the Shire Hall, Bedford. Ref: D.D.TW. 7/1.

Sewn: grey wrappers: uncut: opened. In this copy all the sheets have been similarly misfolded, so that there is a uniform page sequence of 1,2,7,8,5,6,3,4 throughout all the gatherings, except F.

This interesting survival represents the only English lute book that is known to have been published between 1610 and 1676; it was found with three other musical items in 1936 in a large mass of documents that comprised the seventeenth century muniments of Sir William Boteler of Biddenham in Bedfordshire. The preliminary gathering, after the title page, consists of a preface (of two pages) headed 'To the Skilfull and well Accomplisht Masters in Musick'; a short note (on one page) headed 'To the Industrious Practitioner in Music, Richard Mathew wisheth all health and happynesse'; and an index (on two pages) of the thirty-three pieces for the lute that form the body of the book. The six main gatherings comprise 43 pages of tablature notation;

sig. F_2 verso is blank. The tuning of the lute adopted throughout is that known later as the 'French flat':



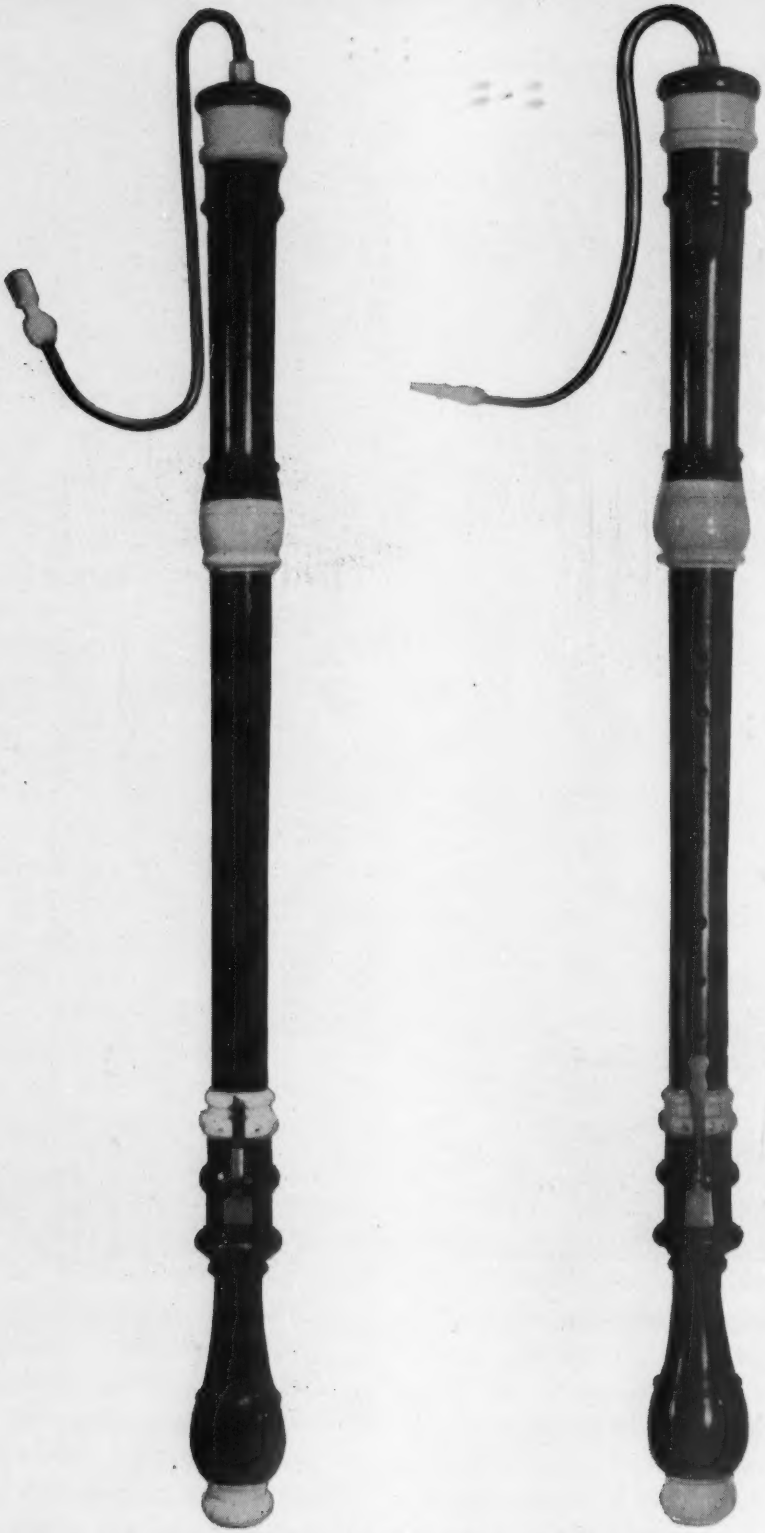
and the usual six additional basses.

Whatever claims to attention *The Lutes Apology* may have, the unique copy in which Richard Mathew's work has survived has a strong case to be considered the worst example of the music-printer's craft that has come down to us. The type used for the tablature was obviously recalled into service, for which it was in poor condition, after some fifty years of well-deserved retirement from its Elizabethan days of activity: either by overdampness of the paper, too heavy inking, or too much pressure on the tympan, the impression on the rough paper used is broken and blurred, and the print on the reverse of each page shows through so strongly that in some places it is not easy, at first glance, to tell which is on the surface and which is the image of the impress on the other side.

When the book was found, the present writer prepared a lengthy introduction, dealing with the book, its author, its original owner and the history of the lute, to what he hoped would be a facsimile edition. No publisher was willing to undertake this, but finally a generous friend of early instrumental music offered to meet the actual cost of production and the Oxford University Press agreed to publish it. Miss Diana Poulton kindly transcribed the music into staff notation and the County Records Committee entrusted the precious volume to the British Museum where the necessary photographs were made. By 1940 everything was ready and the letterpress, duffed-out photographs, and engraved music were all photographed together on to glass, from which the zinc lithographic plates were made: at that stage a bomb fell on the printing works and everything disappeared without trace.

It is clear Richard Mathew was an amateur, since he complains that the 'masters in music' have failed to give any book on the French lute: he says he has 'served two Apprentiships unto my Lute' which must mean that he learnt to play originally with the old tuning and then,

The Bressan Mark. From a treble recorder in the Grosvenor Museum, Chester



Bressan Bass Recorders: *A*: St Peter Hungate Museum, Norwich; *B*: Victoria and Albert Museum

PLATE VI

The Chester Bass Recorder, showing the strut in position

PLATE VII

The Airtam frieze (see Angelic musicians from Central Asia, *GSJ* VII, p. 54).

PLATE VIII

F. Geoffrey Rendall, 1890–1953
Founder member of the Galpin Society

later, with the new tunings. From this we may judge him to have been born about 1600 or soon after. A phrase 'bearing in mee a spirit desiring Common-wealth' combined with the provenance of this copy, suggests that he inclined to the Parliamentary side. That seems to be the sum of our knowledge of the author.

In case someone should follow, with happier results, the intentions of the writer in giving this book a wider public, it may be remarked that the information about the owner in such standard works as the Victoria County History is rather misleading. The facts, derived from local records, are as follows: the Sir William Boteler (or Butler, as the name would now be rendered) from whose muniments this book comes was the great-grandson of William Boteler who had acquired the Manor of Biddenham in the mid-sixteenth century; he was knighted in 1641 and was a man of very diverse attainments; in spite of the fact of his own knighthood and that of his father, Thomas, he espoused the Parliamentary cause and his name is given by Cobbett as one of the Bedfordshire members elected in September 1654, though a document in the Calendar of State Papers of that year shows that Cromwell was opposed to this choice; he was succeeded by his son, William, who was also knighted and who died in 1703. Rather confusingly, there was another Sir William Boteler in Bedfordshire who was a strong Royalist; he held the Manor of Sharnbrook and was killed at Cropredy Bridge in 1644. The respective arms of these families show that they were quite unconnected.

ii. *Manuscript*

Three manuscript items of instrumental music were found amongst the muniments and are now with the County Records Committee at Bedford. One was a beginner's exercise book for the lute, containing tunes and pieces, all rather simple and indicating the elementary stages of a learner; among the titles are such old favourites as *John cum kis mee now* and *Sallingars round*, with a number of typical titles such as *Nobles Nonsuch*, *Kisse mistris Wheeler*, *Wilsons wilde* and *Jinkins his maske*. On the second page there is a piece to which the name *Marke Anthony* is suffixed which is quite possibly a tune composed by Marc Anthony Gayderell, a viol player in King Henry VIII's 'musick', though there was a Mark Anthony Bassano in the large family of that name in the royal music; the Bassanos, however, were chiefly wind instrumentalists. The learner seems to have given up at a fairly early stage and another hand used some blank pages for recording verses.

A second book contains the bass parts of sixty-two pieces for three viols by John Jenkins, William Lawes, John Hingston, Mr Primrose

and Monsieur Blondill, the last two names being hitherto unknown. A note refers to 'the red book and Mr Rhodes' book' for the other parts, but these have not been found.

The third item was a large sheet of music paper on which was written the full score of a Suite for three viols, Almain, Coranto and Saraband, by Mr Primrose; the bass parts of this suite are in the part book mentioned above. This Suite was prepared for publication and suffered the same fate as *The Lutes Apology* on the eve of going to press.

So from these four items that fortune preserved among the mass of domestic documents of an old county family, we have been given an unknown book on the lute, a suite for viols by a composer hitherto unknown, and the names of three musicians to add to the list of mid-seventeenth century composers. When these documents were examined there was just time to secure for Monsieur Blondill, Mr Primrose and Richard Mathew a place in the supplementary volume of *Grove*, edited by the late H. C. Colles, that appeared in 1940. Since then Mr Dart has found reference to Primrose in Continental sources.

JACOB EISENBERG

The 'Chord' in Monocord, Clavicord, Harpsicord and Vocal Cord

A PERUSAL of the cards describing the various keyboard instruments at the Metropolitan Museum of Art in New York City discloses one as the virginal, another as the clavichord and still another as the harpsichord, the latter two generally spelled with 'CHORD'. A tour through the Smithsonian Institution in Washington reveals the same spellings applied to the selfsame instruments.

A. J. Hipkins, in his article on the subject in Grove's *Dictionary*, uses the spellings 'clavichord' and similarly 'harpsichord'. And as might be expected, the same spellings are used in his *History of the Pianoforte* (1896: London). E. E. Kellett and E. W. Naylor employed the same spelling when in 1899 they translated *The Story of the Pianoforte and Pianoforte Players* from the German by Oscar Bie. Morris Steinert used it in his book, *Keyed and Stringed Instruments*, which was published in 1893. William Dale made no change when he presented his *Tschudi, the Harpsichord Maker*, in 1913. Delano Ames, in translating Ernest Closson's *History of the Piano* in 1947, spelled them no differently. The Dutch writer on the subject, Bertha van Beijnum von Essen in *Bouw en Geschiedenis van het Klavier* (Rotterdam, 1932), used 'clavichord' and 'harpsichord' as their English names, but used *clavicymbel* as the Dutch word for harpsicord. Ghislaine Juramie's *Histoire du Piano* (Paris) heads one chapter *Le Clavicorde* while the harpsicord is called by its French name, 'clavecin'.

Though the Germans most frequently referred to all keyboard instruments as 'clavier', Dr Oscar Paul in his *Geschichte des Claviers* (Leipzig, 1868) headed his section on the tangent-striking instrument with 'clavichord' and referred to the 'monochord', while for the harpsicord he used *clavicymbalum*. Julius Bluthner and H. Gretschel in their *Der Pianofortebau* (Leipzig, 1921) also employed 'clavichord' and 'clavicymbalum'. Monsieur Bemetzrieder, Music Master to the Queen of France, in 1778 entitled his 'Method', *Music Made Easy to Every Capacity—being—Practical Lessons for the Harpsichord*, as translated that year into the English tongue by Gifford Bernard. James Grassineau in his *Musical Dictionary*, dated 1739 and published in London, referred

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to them as 'clarichord' and 'manichord' instead of the clavi- and mono- of the species and wrote of the 'harpsichord' or 'Harpsical'. Dr Theodor Baker's translation of Carl Friedrich Weitzmann's *History of the Pianoforte and Pianoforte Literature* (New York, 1893) used 'clavichord' and 'harpsichord'. Even Edward Rimbault in *The Pianoforte* (1860) called them 'monochord, clavichord and harpsichord'.

Nowadays one is sure to encounter the spellings 'clavichord', 'monochord' and 'harpsichord' and even 'vocal chord' when reference is made to the vocal organ—all with an 'h' between the 'c' and the 'o'. Funk and Wagnall's *Standard Dictionary* tells us that 'mono' is derived from the Greek 'monos' meaning *single* or *one* and is a combining form. It also tells us that 'chord' means *a combination of musical tones selected according to the laws of harmony*. It then proceeds to say that it is derived from the Latin *chorda* and Greek *chordē* meaning *a string of a musical instrument*. Webster's *Unabridged Dictionary* gives us the same definition for 'chord'. Webster also defines the word 'cord' as being the same as 'chord' *in music* and derives it from the French *corde*, low or late Latin *corda* and Greek *chordē*. In a footnote, Webster considers the term 'cord' obsolete as a musical term. It is in this definition, however, that we find some clue as to how and under what circumstances monocord, clavicord and harpsicord acquired their 'h'.

Theodore Baker's translation of Weitzmann's work from the German spelled them 'clavicordium' and 'monocordum' when he translated such sections as came from Virdung's work on the subject, even though he spelled it with an 'h' in other parts of his translation. Virdung himself, in his *Musica Getutscht* (Basle, 1511) spelt it 'clavicordiū' and referred to the 'monocordum' as the single stringed instrument employed by Guido Aretinus (d'Arezzo). Edward Rimbault himself spelled them with an 'h', but he did quote the following definitions. From J. Beret's *Alvearie* [or] *Triple Dictionaire* (1573):

> CLAVICORDES, an instrument having many strings of one sound, saving that with small pieces of clothe, the sound is distinct. *Monachordium, dii neut. ge Monachordia, orum Monachordion.*

Here we have both spellings, as early as 1573.

John Florio in his *Queen Anne's World of Words* (1611):

> MONOCORDO, an instrument with many strings of one sound, which with little pieces of cloth make distinct sounds.

John Minsheu's *Ductor in Linguas: the Guide into Tongues* (1617):

> CLERICORDES, claricords or clavicordes. Spanish, clavicordias; *Latin*, clavicymbalum; *French*, clavessins, manicordion; *Italian*, clavicordio, clavicembalo; *German*, clavicord, quia eius *chordae* extenduntur et circumvo-

luuntur clavibus (bacause the strings thereof are wrested up, with wrest or iron, like a key, called in Latin, clavis) vocatur etiam; Latin, Monachordum. It is an instrument having many strings of one sound, saving that small pieces of cloth the sound is distinct.

Blount's *Glossographia* (1656):

CLAVECYMBAL (Clavecymbalum). A pair of Virginals or claricords, so called because the strings are wrested up with clavis, a key.

The New World of Words by E. Phillips (1678):

CLARICORD, or Clericord, a kind of instrument like a cymbal.

It is plain that from the very beginning there was no uniformity of spelling not only among contemporary writers but even with the same author, using the identical word. One things stands out clearly, however; language and spelling were still in a fluid state when the several tongues of Europe were taking their modern forms. The minstrels introduced the language of the man in the street, which was permeated with the Latin of the simple Roman soldier having but a limited command of his native language as it was used by a Cicero or a Virgil. It was therefore an admixture of their original mother tongues and vulgar Latin which the popular poets introduced to the Italians, French, Provençals and Spaniards. After masterful polishings at the hands of men like Dante, these developed into what became known as the Romance languages. And that vulgar Latin which Webster's *Dictionary* calls the 'Low or Late' Latin spelt 'corda' without the 'h'.

It was low or late Latin that Guido Aretinus used in writing his *Micrologus*. It was this low or late Latin that the Italians had in mind when they spelt it 'corda' (as in *una corda* and 'clavicordio'). The French, too, spelt 'corda' without the 'h' (*monocorde*, *clavicorde*); and the Spaniards, by the same process of language development, arrived at *clavicordio* and *monocordio*.

It is only in the English tongue, then, that '-cord' is spelled with an 'h'. Since the English words are derived from the same source it would, perhaps, be less confusing if we too employed the spelling 'cord' without the 'h' when we are referring to strings. It is, after all, so spelt when we refer to 'cord', meaning *a length of string or twine*. Thus 'chord' would mean, as the dictionaries say, *A combination of musical tones selected according to the laws of harmony*; while 'cord' would mean a string, even if it be a musical string. So that the predecessors of the pianoforte would be called the 'monocord', the 'clavicord' and the 'harpsicord', and the human voice would make use of 'vocal cords'.

ERIC HALFPENNY

The French Hautboy: A Technical Survey Part II

FINGERINGS

THE fingerings given in the listed sources are analysed in the following table, and for this purpose vertical tablatures have been discarded and a horizontal numerical formula is used to show the fingering. Fingerholes are numbered and grouped from the top of the instrument, *viz.* 123 456 7. A number denotes that a hole is closed and a hyphen in its place shows that the same hole is opened. Since the two keys cannot be used together, the figure 7 by itself shows the C-key *closed*, while 7♭ shows the E♭ key *opened*. Where the divided third and fourth holes are half-closed, the sign 3°, 4° is used, and the same applies to the few instances where the C-key is half-closed, 7°. Certain obvious misprints or mistranscriptions are noted where they occur.

The fingerings from **H** are mainly those given for the Transverse Flute, except for the few notes specifically mentioned in connection with the oboe. Many of the former, particularly those at the upper end of the scale, do not really apply to the oboe, however, and this causes some conflict of detail. For example, in the absence of any statement to the contrary, the flute fingering for *c'''*♯ is implied for the oboe, but in the text this fingering is specified as an alternative *c'''*♮ on that instrument. Such matters as this make it necessary to treat with caution **H**'s information about oboe-playing.

Of the early sources, only **P** and **H** take the instrument to *d'''*, **H** again merely inferring the flute fingering. Others, with the exception of the later **N**, end at *c'''*. The differences in **N** from *b''*♭ upwards show an interesting advance on former practices, analogous to what was already used on the recorder and was even then being applied to the bassoon. With the exception of **H**, all of the early group contrast with **N** both in this respect and in their fingering for *d''* (123 456 –). They agree, too, on the 'all-off' fingering for *c'''*, which most of them treat as the upward limit of compass. These differences in fingering between earlier and later oboes are due to the changing proportions of the bore, reed and staple discussed in *GSJ*, II, and are capable of experimental confirmation.

S, **T** and **P** agree as to the existence of a 'half-holed' *c'*♯ played with the C-key slightly opened. As I have already pointed out, the curved touch to the C-key on early English instruments makes this possible, at least for slow passages or held notes.

W and **P** share the proclivity for keeping the sixth hole closed for several notes sounding from the upper half of the instrument. This has recently been classified—rather unnecessarily, so it seems—in German recorder-playing circles as the *Stützfingertechnik*, and it has been the subject of much serious discussion. In fact, it vouchsafes a glimpse of one of the many fingering devices which must have been available to the skilled and knowledgeable player for eliminating unnecessary finger-shifts. These are more apparent in the study of the trill fingerings that follow. In cross-fingering, the fewer fingers which have to be moved at once the better, and there are many cases where a departure from rule must greatly have eased the smooth run of a passage.

N does not show the double or twin-bored fourth hole, which is a fairly clear indication that it is intended for the Type C instrument illustrated in the tablature. The single fourth hole is only exceptionally met with on English instruments of other types.

Although **P**, with true Gallic logic, shows complete scales of C♭, C♮ and C♯, no enharmonic distinctions of fingering are made. From the quoted remarks on intonation, however, it would seem that such distinctions were expected to be made by embouchure and not by fingering—an early recognition of the faculty of the double reed for tempering intonation within fine limits. Enharmonic distinctions of fingering occur only in the following cases: *f'*♯, **H**: *a'*♭, **W**: *b'*♭, **N**: *f''*♯, **T**: *a''*♭, **S**, **T**, **W**, **N**: *b''*♮, **N**: *c'''*, **H**, **N**: *c'''*♯, **N**. In **N** the alternative fingerings are not stated to be enharmonics (see INTONATION, in Part I of this survey).

Table I

TABLATURE FINGERINGS OF THE FRENCH HAUTBOY

(*Abbreviations*: **S**: *Sprightly Companion*. **T**: Talbot MS. **W**: Walsh. **F**: Freillon Poncein. **H**: Hotteterre. **N**: *New and Complete Instructions*.)

Note	*Source*	*Fingering*	*Comments*
c'	All except **T**	123 456 7	
	T	123 456 7° 'soft'	**T**'s fingerings for *c'* and *c'*♯ are transposed.
c'♯	**S F**	123 456 7°	
	T	123 456 7 'loud'	
d'	All	123 456 –	

ERIC HALFPENNY

The French Hautboy: A Technical Survey Part II

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c'♯	**S F**	123 456 7°	
	T	123 456 7 'loud'	
d'	All	123 456 –	

d'♯	S T F H N	123 456 7♭	
	W	123 45– 7♭	W: engraver's error.
e'	All except S	123 45– –	
	S	123 456 –	S: engraver's error.
f'	T W	123 4–6 7♭	
	F H N	123 4–6 –	
	S	123 4°–6–	
'♯	S	123 4–6 –	S: *f'* and *f'*♯ are transposed.
	T	–23 4°—–	T: 1 should be closed.
	W	123 4— 7♭	
	F	123 4°–6–	
	H	123 4°–6– *or*	
		123 4— 7♭	
	N	123 4— – *or*	
		123 –56 –	
g'	S T H N	123 —– –	
	W F	123 —6 –	
g'♯	S T H N	123°—– –	
	F W	123°—6 –	
a'♭	W	12– 4— –	
a'	S T H N	12– —– –	
	W F	12– —6 –	
b'♭	S F	1–3 —– –	
	T	1–3 4–6 –	
	W	1–3 —6 –	
	N	1–3 —6 7♭	
a'♯	N	1–3 —– 7♭	
b'	S T H N	1— —– –	
	W F	1— —6 –	
c''	S T H	–2– —– –	
	W F	–2– —6 –	
	N	–2– —– 7♭	

Second Octave

c''♯	All	–23 456 7
d''	S T W F	123 456 –
	H N	–23 456 –
d''♯	All except N	123 456 7♭
	N	–23 456 7♭
e''	All	123 45– –
f''	S T W	123 4–6 7♭

	F H N	123 4–6 –	
f″♯	**S W F N**	123 –56 –	
	H	as above *or*	
		123 4— –	
	T	123 4°—–	
g″♭	**T**	123 –56 –	
g″	All except **F**	123 —– –	
	F	123 —6 –	
g″♯	**S T W N H**	123°— –	
	F	123°—6 –	
a″♭	**S T W N**	12– 4— –	**N** only gives alternative fingering but does not state enharmonic note.
a″	All except **F**	12– — –	
	F	12– —6 –	
b″♭	All except **N**	1–3 — –	
	N	12– 456 –	
b″	**S H**	1— — –	
	T W F	–2– — –	
	N	12– 45– – *or*	
		1— — –	
c‴	**S**	'All open and blow hard'	
	T	'Open all'	
	W F	— — –	
	H	— — – *or*	
		— 456 –	
	N	–23 45– – *or*	
		–2– 456 7♭	
c‴♯	**F**	–23 4–6 7	
	H	— 456 –	**H**: see *c‴* fingering.
	N	–23 4— 7	
d‴	**F**	–23 — 7	
	H	–23 456 – *or*	
		–23 4–6 –	
	N	–23 — 7♭	

'CADENCES'

In common with other melodic treble instruments, the oboe was expected to perform the conventional ornaments of the time. It shared with the transverse flute and recorder an elaborate code of fingerings for the performance of 'shakes' (quick alternations between two ad-

jacent diatonic notes), and these are of greater importance than may at first appear on account of the light they shed on contemporary technique. In some keys the quick alternation of two neighbouring notes is either difficult or impossible if the orthodox tablature is followed, because their respective fingerings are awkward to combine smoothly in such circumstances. Consequently means were devised to circumvent this difficulty, and to produce the required shake, if possible, by the movement of a single finger. In reality the problem goes deeper than the mere performance of ornaments, for if two notes are difficult to shake the chances are that any quick passage through them will be equally difficult to play smoothly. Although there is little definite evidence to be obtained from contemporary sources, anyone practically acquainted with cross-fingered instruments will realize the value of alternative fingerings for certain passages and in certain circumstances. This is reflected in the remark in **N**, 'some passages one way will be most handy, in other passages the other way according [to] what you execute'. In the case of the oboe the conventional florid patterns of late Baroque writing, turning and returning over a small compass or repeated in sequence, are scarcely possible unless the unorthodox shake-fingerings are admitted. In much the same way, of course, the modern 'shake' key is not put on an instrument merely for playing the now comparatively unimportant trill, but simplifies many a quick passage through the note it controls.

Another matter brought to light by a study of these special fingerings affects the whole 'philosophy' of cross-fingering. We are accustomed today to sharp pitch-responses and maximum sonority from woodwind instruments over their entire scale and in any key. To achieve this, modern technology, based on nineteenth-century empiricism, eliminates as far as possible the influence of the tubing and vents below whichever note-hole may for the time being be in use. On cross-fingered instruments these factors, so far from being eliminated, had to be taken into account. Small, heavily undercut note-holes and less dense woods damped down and rounded off peak-responses, which were then adaptable to the inflection of pitch created by the technique of cross-fingering. Instruments which will work satisfactorily under these conditions are also very sensitive to secondary resonances set up by the closing of note-holes below the one in use, and they often produce tones of better and steadier quality from 'closed' fingering than if they are vented to the fullest extent. Nineteenth-century critics of such instruments made great play about the 'veiled forked notes', whereas what the player had to be on his guard against was the 'shouting' quality of open fingerings. The technique of the shake in-

troduces a considerable number of these 'closed' fingerings; though quite legitimate, these are not shown in the regular tablatures. Other fingerings (most frequently those for semitone shakes) are palpable 'fakes' in which the upper note is too sharp, although this fact is concealed by fingering and playing the true upper note as the appoggiatura and then blowing the shake with a slightly relaxed embouchure. This disguises the sharpness of the false upper note and moves it nearer in pitch to the principal. It occurs so often in early tables of shakes that it must have been musically satisfactory, and it is therefore an indication of the particular quality of response expected from the contemporary reed.

The French sources call these note-to-note shakes *cadences* and an examination of their mode of presentation show why. In **P** the instructions are characteristically tabulated under four heads, for tone and semitone shakes, each with '*les finales naturelles*' and with '*les finales diezées & bemolisées*'. In every example the shake occurs on the supertonic of the stated key, it is preceded by the *coup* or appoggiatura on the upper note, and it is expected to fall to the tonic after the shake. The classification into shakes with natural, flat and sharp finals (in other words, those whose tonics fall on notes of the C-scale of the oboe, and those on sharpened or flattened notes) underlines this aspect. A sample of **P**'s method of instructing, which is used to describe every shake, is given below:

> *Comme il faut Trembler avec le Hautbois sur les cordes cadencieres de dessus les finales naturelles des Modes majeurs. . . .*
> *. . . En G re sol, ayant donné le coup sur le si, il faut trembler le second doigt de la main d'en haut.*

In **S**, too, something of the same kind is shown, though here the cadential structure is widened to admit the 'Phrygian' trill, with a fall of only a semitone from the principal to the final. The shakes are given in tablature, with the correctly fingered appoggiatura only where this differs from the shake-fingering. Fingerings for the finals are given in every case. Some examples are duplicates, differing only in the fall of a tone or semitone to the close.

The presence of the finals in **S** and **P** is here only of academic interest, and does not affect the essential fingerings to be examined. **H** still calls the shakes *cadences* but makes no mention of the implied final. Nor do **W** and **N** give any hint of its existence.

No less than forty-two *cadences* are listed in **P**, but it must be remembered that owing to his novel method of classification these

include enharmonic duplicates. **S** is simpler, with thirty-five, but again there is a certain amount of duplication. Twenty-seven shakes are given in **W**'s *Table of all the Graces*, which also includes a number of 'beats'. The author of **N**, evidently sceptical of the value of these earlier conventions, contents himself with twenty, observing:

> 'We will next lay down a Scale of the most usefull Graces, which may be done with propriety not willing to burthen the Memory of the young Practitioner with a great number improper, and most part useless.'

Turns are shown after some of the examples in **N**, for the first time. In **W** and **N** shakes 'on' specified notes apply only in their most usual contexts. For example, the shake on *f*♯ is between that note and *g* only, no whole-tone shake being expected in that position. **W** is also the sole authority for the low *d*′–*c*′ shake, which has no place in French sources as it cannot form part of the *cadence*.

The following tables list the majority of pairs of adjacent notes for which shake fingerings are prescribed in **S**, **W**, **P**, **H** and **N**, and they give a good idea of the variety of fingerings available outside the regular tablatures. In the case of *H* only the eight special fingerings mentioned in the oboe chapter have been incorporated, those for the transverse flute being mainly irrelevant. Not all of these sources are completely reliable on all points; there are engravers' errors, misprints and other ambiguities of various kinds with which the investigator has to contend. Even the meticulous Poncein occasionally says *haut* where he means *bas*.

In order to present this material clearly and concisely, the shakes have been arranged in ascending order of pitch in three groups: (*a*) semitone shakes; (*b*) tone shakes on notes of the natural (C-major) scale of the oboe; and (*c*) tone shakes whose upper or lower notes are accidentals. The numerical code is again used, an asterisk denoting the finger or fingers to be trilled. Where the true appoggiatura differs from the shake its fingering is given first, in brackets. As the fingerings are in many cases identical in both octaves, the shakes are classified only by their note-names, the actual pitch being indicated by figure 1 or 2 after the source. Shakes falling in the range *c*′–*c*″ are denoted by 1, shakes above *c*″ by 2.

A discussion of the various ornaments for which minute general directions are given by both **P** and **H** is outside the scope of this study. Such transient ornaments concern the artistic use of the instrument and not its technique, and **P** and **H** merely confirm what is already known about them from other sources.

Table II

SHAKE FINGERINGS

A: HALF-TONE SHAKES, IN THEIR MOST USUAL FORMS

Shake	*Source*	*Fingering*
e♭–d	**S**(1, 2) **F**	(123 456 7♭)
		123 45* –
e–d♯	**F W**(1, 2)	123 45* 7♭)
f–e	**S**(1) **F W**(1, 2) **N**(1, 2)	(123 4–6 –)
		123 4*– –
g♭–f	**F**(?2)	(123 –56 –)
		123 *–6 –
g–f♯	**S**(2) **F W**(2) **N**(2)	123 –*6 –
	W(1) **H**	123 *°–6–
	N(1)	123 *— 7♭
a♭–g	**S**(1)	(123°— –)
		12* — –
	S(2)	(12– 4— –)
		12* — –
	F	(123°—6 –)
		12*—6 –
a–g♯	**F W**(1)	12*°—6 –
	W(2) **N**(2) **H**(1, 2)	12*°— –
b♭–a	**S**(1) **F**	(1–3 — –)
		1*– — –
b–a♯	**F**	1–* — –
c–b	**F W**(1) **N**(1)	(–2– —6 –)
		*— —6 –
	S(2)	*— — –
	W(2)	–*– — –
d♭–c	**F**	–2* 456 7
d–c♯	**S**(2) **N**(2)	–23 456 *
	F	123 456 *
	W(2) **H**	(123 456 –)
		–23 456 *

B: WHOLE-TONE SHAKES ON OPEN NOTES

d–c	**W**(1)	123 456 *
	S(2) **F N**(2)	–2* 456 –
e–d	All, both octaves	123 45* –
g–f	All, both octaves	123 *–6 –
a–g	**S**(1, 2) **W**(2)	12* — –
	W(1) **N**(1, 2)	12* —6 –

–a	**S**(1) **F W**(2)	1*– — ·
	W(1) **N**(1, 2)	1*– —6 –

C: WHOLE-TONE SHAKES ON ACCIDENTALS

f–e♭	**S**(1, 2) **F W**(1, 2) **N**(2)	123 4*6 7♭
f♯–e	**S**(1, 2)	123 4*– –
	N(1, 2)	123 *5– –
g♯–f♯	**S**(1)	12* 4— –
	S(2)	12* 4°—–
	F	12* 4— 7♭
	H(1)	12* 4°–6–
	H(2)	12* –56 –
b♭–a♭	**S**(1)	(123°— –?)
		1*– — –
	S(2)	(1–3 — –)
		1*– — –
	F H(1, 2)	1*3°— –
	W(1)	(1–3 —6 –)
		1*– —6 –
	W(2)	(1–3 — –)
		1*– — –
c–b♭	**S**(1)	(–2– — –)
		*–3°— –
	S(2)	*–3 — –
	F W(1) **N**(1)	(–2– —6 –)
		*–3 —6 –
c♯–b	**S**(2) **F**	(–23 456 7)
		1** 456 7
e♭–d♭	**F H**	(123 45– 7)
		–23 45* 7

Note that in the *c♯–b* shake (last but one) it is the lower note that requires the fingers to be raised. The *c♯* is played with all fingers down, and although this fingering gives the low *c♮*, the trill is practicable on the contemporary (Type A) instrument. The last example in the list shows the use of a 'cross-fingered' *e♭*, obtained by opening the sixth hole and closing the C-key, as sometimes found in recorder fingerings.

ACKNOWLEDGMENTS

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Library, Oxford; Durham Cathedral Library; the late F. Geoffrey Rendall; A. Hyatt King; and Josef Marx of New York, who lent his microfilm of Freillon Poncein (Library of Congress copy). The *New and Complete Instructions* was studied in the first place from a photostat (made by Maurice Vincent) of a copy printed by Cahusac; this is now in the Henry Watson Collection, Manchester. The Paris copy of Poncein is in the Bibliothèque Nationale, and not the Conservatoire de Musique, as stated in *GSJ* VI.

LETTERS TO THE EDITOR

THE SOUND-HOLE IN A FLUTE

TO THE EDITOR:

The sound-hole in a fllute has been known for a very long time in pharaonic Egypt (cf. *Catalogue général des antiquités égyptiennes du Musée du Caire. Instruments de musique*, p. 121, Flute No. 69819).

I am, yours etc.

(GSJ, IV and VII)

DR. H. HICKMANN
(Cairo)

SHAWM AND OBOE EMBOUCHURE

TO THE EDITOR:

May I crave a little of your valuable space to put on record an interesting phenomenon which has come to light as a side-result of an experiment I have recently carried out.

I have for some time been concerned to obtain positive evidence as to the exact relation between the pirouette of the shawm and the player's lips in different parts of the compass. It occurred to me that, if a suitable method could be found, X-ray photography might most conveniently supply the answer. Accordingly I took my problem to Mr G. Gosden of the Royal London Homoeopathic Hospital, a most skilful radiographer who has in the past helped me with other matters. Under his guidance the details of a satisfactory technique were worked out, and, with the help of Mr A. C. Baines of this Society playing his tenora as a subject, some informative plates were obtained.

As a check an oboist playing an ordinary modern instrument was also screened, and it was in these latter plates that an unexpected feature (at least to me) was disclosed. Comparative exposures were taken of the subject sounding *d'* and then the same note at the octave, care being taken that no conscious muscular effort was made other than that normal to sounding these two notes. On comparing the plates it was evident that to sound the higher note the upper lip had rolled inward against the upper blade of the reed to the extent that the free length in the mouth was almost exactly halved. At the same time the positions of the tongue and soft palate had changed markedly. These findings, involving as they do two of the three elements of the coupled acoustic system formed by a reed player and his instrument, obviously pointed to an interesting and possibly lengthy piece of research. I am at present planning a schedule for this and I hope that in the future I may have some results worth communicating to you.

If any of your readers have worked along these lines or are aware of published material bearing on the subject I shall be only too glad to hear from them.

I am, yours etc.,

PHILIP BATE

PURCELL'S GOLDEN SONATA

TO THE EDITOR:

GSJ VII brings a review of Purcell's Golden Sonata which Mr Tippett and I have edited. May I contest a few editorial facts which your reviewer has misrepresented? He says that our edition 'makes use of the bass figures given by an early eighteenth century copyist'. In fact, he cannot have opened the score as it contains not a single figure, and he cannot have read the preface very carefully as in it we clearly reject these figures (of a Mr Smith) as 'more in the early eighteenth century Italian style than Purcellian'. Furthermore, your reviewer omits to tell your readers that ours is the first and—so far—only edition of the Golden Sonata which is entirely based on Purcell's faultless autograph and not on the posthumous edition of 1697. A comparison between both—as done in our preface—shows how unreliable is the latter, and also how unauthentic and insignificant are its bass figures. By the way: our edition is not published by Schott-London, but Schott-Mainz, and costs not 7*s.* 6*d.* but 5*s.*

I am, yours etc.,

WALTER BERGMANN

ANGELIC MUSICIANS FROM CENTRAL ASIA

TO THE EDITOR:

The short lute*, described by Colonel Prynne in *GSJ*, VII, from the Russian relief attributed to the first century AD, seems to have a counterpart in instruments shown in several of the statuettes, usually made of terracotta, found at Tanagra, Alexandria, Myrina and other places in the very near East. In some of these, the instrument is very like the mandora of the Middle Ages, yet these statuettes are usually dated in, or about, the first century BC.

I am, yours, etc.,

GERALD HAYES

* See Plate VIII of the present number.—ED.

NOTES AND QUERIES

A POLISH ORGAN OF THE EIGHTEENTH CENTURY

Plate IV depicts the organ of the Cistercian Abbey of Oliva, near Danzig. It was built in the later years of the eighteenth century by Jan Wulf of Danzig, and he is said to have spent the last twenty-five years of his life on its construction. He regarded this organ as his masterpiece, and a few years before the organ was completed in 1793 Wulf entered the Abbey as a novice, under the name of 'Brother Michael'. The organ has four manuals (sixty-nine stops) and pedals (thirty-two stops), and its bellows originally required the labour of seven men to operate them. It is laid out on a very shallow balcony which allowed the builder very little room for his work; moreover the Abbey authorities insisted that the window in the apse should not be entirely covered by the organ. Faced with this difficulty the builder hit upon the triumphant solution of including a second window in the design of the case itself, and this is glazed with a representation of the Virgin and Child. Surrounding this exquisite example of seventeenth-century stained glass and forming part of the magnificent case are a number of ingenious automata devised by the maker—suns that revolve, stars that chime, bells, and angels lifting flutes and trumpets to their lips and setting them down again. There is a tradition that the organ was heard for the first time during High Mass; when the full power of the instrument surged out in the Gloria, Brother Michael uttered a single cry of ecstasy and forthwith expired.

ALICIA SIMON

BOOK REVIEWS

HANS-PETER SCHMITZ, *Die Tontechnik des Père Engramelle*. (Kassel: Bärenreiter-Verlag.) 1953. 24 pp. Ill. Unpriced.

This modest but useful volume, the eighth in the new series which is being published under the aegis of the Gesellschaft für Musikforschung, stresses the importance of Père Engramelle's well-known treatise in so far as tempo, articulation, and ornamentation are concerned. These three features of baroque music have been, and still are, highly controversial among scholars and performers alike. Dr Schmitz points out (as others have done before him) the usefulness of basing our calculations and ideas upon the utterly exact information of mechanical instruments, more especially those whose mechanism is governed by the principle of the revolving cylinder.

One might compare this theory with similar ones held by advocates of sound recording in other forms, or even with Apel's *Accidentien und Tonalität* . . . ,

which claims similar infallibility when tablatures are put to the test. But there are many current recordings of contemporary music which may be discounted in years to come, and there are many tablatures where printers' and copyists' errors may invalidate the blindly faithful transciption. Are we not then to assume an equal measure of doubt in these cylindrical interpretations, charming as they are, of eighteenth-century marches, airs and dances?

There is nevertheless a great deal to be learnt from the treatise itself, as from the comparable chapter dealing with mechanical instruments in *L'Art du Facteur d'Orgues*, published only three years afterwards. Dr Schmitz has done us all a service in reminding us of its interest and significance, and his thoughtful inclusion of music facsimiles and two art plates (the engraving on Engramelle's title-page, depicting a typical workshop; and Chardin's 'The Lady and the Singing-Bird') add to the value of the book. D. S.

STANLEY GODMAN, *The Bird Fancyer's Delight*. (Schott and Co. Ltd.) pp. 21. 3*s*.

'BFD' is one of those small ephemera of eighteenth-century music about which everyone has heard, at which few have looked. It has now been rescued from obscurity by Mr Godman, with the object of making its attractive tunes once more available to players of the sopranino or treble recorder. Mr Godman also contributes an admirable introduction, which gathers together every scrap of bibliographical information about this curious little work and tells most of us far more than we should otherwise have known of the delights of bird fancying. He has also collated and classified the forty-three different tunes from the known copies, so that each now appears under the heading of the bird to which it was considered appropriate. It would seem that a new vista opens for the enterprising recorder player who cares to teach his pet 'canary-bird' to warble in consort with him. For good value, Mr Godman also throws in the title and seven pages of instructions in facsimile, taken from the 1717 copy of the Meare's edition in the Library of Congress. A pretty conceit is the cover design, imitating this original title page in everything but the wording.

The interest of this publication is inversely proportional to its size, on account of the instrument for which it was intended, the bird flageolet, a drawing of which appears on the title. This is the first mention anywhere of the sponge chamber interposed between the player's mouth and the whistle slot for 'fixing ye wett Air', afterwards to become a characteristic of all flageolets. The device evidently originated on the bird flageolet because of its tiny, easily clogged windway. It also had the merit of removing the player's hands further from his mouth—a desideratum players of the sopranino recorder may feel is yet outstanding on that instrument.

The bird flageolet was a narrow-bore version of the French flageolet, having four finger holes and two thumb holes; the only rational distribution of closely-spaced diatonic holes on so short an instrument. The bottom note was sopranino G, noted an octave lower, but a peculiarity of the technique was that the scale actually started a tone lower still, by partly closing the bottom end with the R. little finger. Although this device is mentioned without approval in both *Youth's Delight* (John Clarke, 1681–95) and *Innocent Recreation* (John Miller,

1695–1707), it remained a recognized feature until 1880 and beyond. The French flageolet has enjoyed an uninterrupted history of over three hundred years, and its later virtuosic flights in the Quadrille band would probably astound recorder players. This fluency undoubtedly comes from the 'non-standard' fingerhole arrangement, far less cramped than on a recorder of comparable size. The original fingering (not as shown in BFD), was: L.H.: thumb plus 1, 2, 3. R.H.: thumb plus 1 only. Fingers R.H. 2 and 3, placed over and under the lower portion of the tube where there was a raised ring for the purpose, supported the instrument and left the two thumbs free to close their holes. The fingering is complex, and the modern range, to c^5, all but supersonic.

In passing it may be observed that the *flauto piccolo*, brought out by eighteenth century composers at the slightest suggestion of bird-song but on no other occasion, is much more likely to have been a French flageolet than either a small recorder or cross flute. E. H.

REVIEWERS:

D.S. Denis Stevens
E.H. Eric Halfpenny